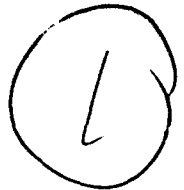AD-A273 918

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EMPOWERMENT:
DIMENSIONS AND STRATEGIES
IN THE U.S. AIR FORCE

THESIS

Karen M. Corrente, Capt
Adelaida Lopez, Capt

AFIT/GCA/LAR/93S-3

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EMPOWERMENT: DIMENSIONS AND STRATEGIES

IN THE U.S. AIR FORCE

THESIS

Presented to the Faculty

of the School of Logistics and Acquisition Management

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Requirements for the Degree of

Master of Science in Cost Analysis

Adelaida Lopez, B.S.   Karen M. Corrente, B.A.

Captain, USAF   Captain, USAF

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Karen M. Corrente
Adelaida Lopez

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Abstract

The goal of this research was to develop an instrument capable of measuring empowerment, and provide recommended general strategies on how to create an empowered organization.

This goal was accomplished by developing a pilot questionnaire based on seven dimensions of empowerment discussed in Major Wayne G. Stone's unpublished article Empowerment: Keeping the Promise of the Total Quality Revolution. Each dimension of empowerment was subdivided into measurement parameters, with behavioral statements developed to describe these parameters.

The pilot questionnaire was completed by 278 Air Force-related personnel with mainly acquisition-oriented backgrounds. Results indicated six factors of empowerment exist which were translated into six empowerment dimensions: management commitment, continuity, worker commitment, cognizance, control, and community.

An operational questionnaire was developed along with a detailed feedback format that may be used for educational or organizational analysis. Feedback includes a measurement of empowerment within an organization along with a listing of management strategies to improve the level of empowerment within that organization.

EMPOWERMENT: DIMENSIONS AND STRATEGIES

IN THE U.S. AIR FORCE

I. Introduction

General Issue

In recent years, many profit-oriented organizations and companies have responded to the need to change management practices as a way of economic survival in an increasingly competitive and ever-changing business environment. In many cases, their entire management philosophy has shifted toward an emphasis on total quality management (TQM). The Air Force is also attempting a different style of management, "from a regimented style of supervision where management might control everything, toward a formal commitment to quality, where the power is shared" (Keane, 1992:4). The Air Force prefers to describe what the industry calls TQM as "Quality Air Force" (8). General Merrill A. McPeak, as quoted in the August 1992 issue of Airman, defines Quality Air Force as "a leadership commitment and operating style that inspires trust, teamwork, and continuous improvement, everywhere in the Air Force" (8).

Empowerment is one of the fundamental building blocks of the total quality philosophy (Boyles, 1993:1), and the degree in which empowerment takes place is a good measure of how productive the TQ process will be (Johnson, 1993:48). Every year, organizations spend thousands or even millions of dollars for total quality training. However, "for them to reap the benefits of such expense, they need to ensure their employees are empowered as well" (Dobbs, 1993:57).

Within the past five years, the Air Force has moved toward total quality, not necessarily for economic survival, as its civilian counterparts, but as a means of ad sting to fewer resources and

changing missions (Perini, 1992:38). The Air Force is adjusting to major organizational changes involving restructuring. Successfully incorporating change into the work environment resides in an organizations's success in empowering its people (Johnson, 1993:48), thereby recognizing people as the Air Force's most valuable asset (Perini, 1992:39).

Change brings about new problems that dictate new solutions. Innovative solutions flourish in environments where creativity is promoted. Change, creativity, and empowerment are linked; "change drives the need for new answers, the creative environment encourages the creation of the answers; and empowered people create the answers" (Early, 1991:13). Accordingly, it is of major significance to recognize practices that foster an empowering environment. Identifying these practices requires a better understanding of the dimensions underlying empowerment.

Background

As a direct result of significant historical changes, mainly the fall of the Communist Party in the Soviet Union, the Air Force has become smaller and restructured as a way of improving combat capability and increasing peacetime effectiveness (Stringer, 1992:2). In the article Air Force Restructure: Impetus for Change, based on a 1992 Air Force White Paper, the author states, "the Air Force has embarked on a restructuring that reflects its vision, incorporates modern management practices and builds combat capability." These management principles are streamlining, delayering, empowering and removing roadblocks to improvements (Stringer, 1992:2).

The article further cites how the Air Force's restructure decisions will be guided by management principles employing five themes: 1) strengthen commanders, 2) decentralization, 3) consolidate, where practical, 4) streamline and flatten, and 5) clarify functional responsibilities. These themes are explained below:

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First, every effort must be made to strengthen the
chain of command through better alignment of responsibility,
authority, and accountability. Field commanders... now have
the resources and authority they need to fulfill that
responsibility and they will be clearly accountable for
getting the job done.
The second theme is decentralization, with the flow of
power and people out of Headquarters and into the field.
Large staffs dictating the details of day-to-day business are a
thing of the past. The people on the flying, fixing, and
launching end of the Air Force are on the spot every day. They
will be empowered to operate as teams with more authority over
how they function...
Third, where appropriate, resources will be consolidated
under a single field commander who has the responsibility for a
particular mission. At the same time, care will be taken to
avoid centralizing power in Headquarters staffs.
Fourth, we will streamline and flatten our structure by
removing unnecessary layers. This will serve to accelerate
reaction time, improve processes, and push power down to the
field. Finally, functional responsibilities will be clarified
with a view toward untangling those organizational lines which
have become confused over the years.   (Keane, 1992:4)

Empowerment, as defined by the Air Force Quality Center, is

"leadership allowing the work force to improve work processes based upon

the individual's expertise. Accountability, authority and

responsibility are placed at the lowest levels in the organization"

(Keane, 1992:6). Each theme encompasses a key phrase directly related

to empowerment: responsibility, authority, accountability, appropriate

resources, flow of power... into the field, and clarify functional

responsibilities.

The reliance on empowering stems from its benefits. Empowerment

brings benefits to the workplace from both organizational and personal

perspectives. It can improve morale, productivity, quality of products

and services, speed and responsiveness, and management leverage

(Shelton, 1991:5). Empowerment gives employees a sense of ownership,

commitment, and control over their jobs (Byham, 1991:10-11). People

exceed duty expectations when certain conditions are created in their

organization. These conditions create the environment that promotes

empowerment. In essence, empowerment can get people to go beyond the

call of duty (Shelton, 1991:7).

Empowerment is by no means a new idea (Stone, 1993). It has existed as part of other theories and practices (Kizilos, 1990:48). Recently, it is being employed by theorists as an emerging construct used to explain organizational effectiveness (Conger and Kanungo, 1988:471). As a construct, it can be better understood and measured by identifying its dimensional characteristics and related concepts (Emory and Cooper, 1991:52).

The Air Force has developed and administered surveys to measure the degree to which an organization has successfully adopted the total quality philosophy. One of its primary evaluation instruments is an adaptation of the Malcolm Baldridge Quality Award criteria. Although empowerment is included in the evaluation criteria, the questions cover the construct in a fragmentary manner.

In all fairness to the established criteria of the award, it may not have been the intent of the award criteria to measure all dimensions of empowerment. Prior Air Force research aimed at measuring empowerment have, at best, included a question directly asking, "Are you empowered?" (Krimmer, 1989:106). The inadequacy of this approach lies in the lack of dimension, and in the assumption that the survey participant understands the concept of empowerment.

The presumption that Air Force members know they are empowered or understand the concept, cannot be substantiated given current misconceptions about empowerment. Empowerment is not an abdication of control or power (Stone, 1993). It is not a way to get Air Force members to "assume all decision making authority" or a means of unloading management's "inherent responsibility" (Boyles, 1993:1). Empowerment is not simply delegation or participation (Conger and Kanungo, 1988:474; Stone, 1993). Empowerment is not just asking people what they think or simply insisting employees take more responsibility (Bernstein, 1992:5). However, without a full understanding of the subject, misconceptions like these will substitute for knowledge.

Truthfully answering the question, "Are you empowered?," is a difficult assignment for employees when they do not understand what the term means, and are unaware of what it entails. It is equally or more perplexing for a supervisor or senior leader to try to answer the questions, "Do you empower your people?", "Are your people empowered to do the job?". At best, most can only provide a subjective evaluation, often based on the misconceptions described above.

Measurement of empowerment is critical because it provides a way of providing an objective understanding of how the process is working. Creating an empowered organization involves much more than a list of "things to do". It demands understanding the concept and a realization that "empowerment refers to a process" (Conger and Kanungo, 1988:474).

Employing an instrument (a questionnaire with an interpretation of the results) to measure the underlying dimensions of empowerment provides an organization with an assessment of their environment. This appraisal can serve as a vehicle for identifying empowerment strategies. Measuring the degree of empowerment has its own challenges, such as identifying the theoretical dimensions and behaviors associated with empowerment, and interpreting the resulting measurements. Consequently, in the authors' opinion, to improve empowerment in an organization, developing a method of measurement is an essential starting point. The main purpose of this thesis is to provide Air Force members with an instrument that will help them understand the process of empowerment, and how to pursue their journey toward becoming an empowered organization.

Assumptions

In completing this study, the authors assumed prior work experiences were a responsible basis for establishing behavioral statements to match various empowerment dimensions. This initial undertaking was either confirmed or rejected based on statistical analysis and extensive literature reviews as detailed in Chapter II.

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Limitations

The scope of this thesis is not meant to provide evidence of a cause and effect relationship between theorized parameters of empowerment to related behaviors with their outcomes. For example, if an organization scores low, where lower is better, on a theorized parameter of the empowerment instrument, it does not necessarily indicate these behaviors caused empowerment to occur.

Due to time constraints, the final version of the empowerment instrument could not be retested for validity. In addition, the recommended format for educational and organizational analysis will be tested in the field, but time limitations will not allow for feedback of its usefulness in time to be included as part of this report. Recommendations for further study of this issue, are addressed in V: Summary, Conclusions, and Recommendations.

Research Goal

The goal of this research was to develop an instrument capable of measuring empowerment, and provide recommended general strategies on how to create an empowered Ai Force organization.

The following research objectives served as a guide for this study:

Research Objective One: Understand Definitions and Theories Related to Empowerment. In this research objective, the authors examined the definitions, prior and current theories, and management practices related to empowerment in an organizational context. Chapter ΓI, Literature Review, covers this objective in detail.

Research Objective Two: Identify Theorized Parameters Underlying Empowerment. In this research objective, the authors identified theoretical parameters that describe and define organizational empowerment. The selection of parameters was based on seven dimensions of empowerment as discussed in Major Wayne G. Stone's article Empowerment: Keeping the Promise of the Total Quality

<u>Revolution</u>. Each parameter describes a specific subset of each of the seven dimensions of empowerment. A detailed discussion of each parameter is covered in Chapter II, Literature Review.

<u>Research Objective Three</u>: <u>Develop Empowerment Instrument</u>. To fulfill the requirement of this research objective, the authors developed a number of behavioral statements intended to successfully describe the seven dimensions of empowerment as discussed in Research Objective Two above. These statements were extracted from the literature review and from the authors' prior work experiences.

<u>Research Objective Four</u>: <u>Test Adequacy of Behavioral Statements</u>. This research objective involved testing the adequacy of the behavioral statements and their alignment with the seven dimensions of empowerment discussed in Research Objective Three. This was accomplished by administering a pilot questionnaire to a wide variety of Air Force personnel and statistically analyzing the results.

<u>Research Objective Five</u>: <u>Develop Operational Empowerment Instrument</u>. In Research Objective Five, the behavioral statements tested in Research Objective Four were incorporated into an operational instrument capable of measuring the dimensions of empowerment.

<u>Research Objective Six</u>: <u>Develop Recommended Instrument Feedback Format</u>. This research objective involved the development of a recommended format for interpreting the results of the operational empowerment instrument developed in Research Objective Five. Interpretation also included strategies for creating an empowered organization.

Thesis Outline

This thesis is divided into five chapters. This chapter provided a description the study's background, purpose, research objectives, and limitations. Chapter II: Literature Review, will review definitions, theories, and management practices related to empowerment. Chapter II will also address the theorized dimensions of empowerment and their

likely behaviors associated with empowerment. Chapter III: Methodology, describes the methodology used to meet the six objectives stated above to satisfy the primary goal of this research. Chapter IV: Analysis of Data, contains the findings of the administered pilot instrument. Statistical analysis will be used to develop the final design of the instrument to measure empowerment. Chapter V: Summary, Conclusion, and Recommendations, will contain recommendations of a format for interpreting results of the instrument for educational or organizational analysis purposes. Chapter V will also address recommended areas for further research on empowerment.

Summary

This chapter introduced the general issue of empowerment in an Air Force organizational context and reasons it is important to measure empowerment. This chapter presented the primary goal and six supporting objectives to enable the construction of an instrument capable of measuring empowerment for educational and organizational analysis purposes. Finally, this chapter outlined the sequence of presentation of the remainder of this thesis.

II. Review of Related Literature

Overview

The goal of this study is to develop an instrument that will measure empowerment. Prior to attempting to measure empowerment, it is fundamental to define empowerment. Research indicates that as a construct, empowerment is effectively defined by extracting its dimensions from theorized and behavioral characteristics (Conger and Kanungo, 1988:472). These qualities can be found by reviewing literature to theoretically determine what types of behaviors empower people and which actions create an empowered organization.

Recognizing empowerment most likely existed within prior management practices, theories, and constructs; it is necessary to uncover and relate these theories to the current construct of empowerment. This approach allows for the foundation of an expanded knowledge base to identify empowerment's encompassing dimensions via incorporation of commonalities from earlier theories. Associating differences between empowerment and these earlier concepts affords insight to distinguishing aspects of empowerment compared to previous practices, theories, and constructs.

This chapter begins with empowerment definitions from several writers and management consultants in the area of empowerment. The literature review is divided into three sections. In Section I: Definitions of Empowerment, in which the connection between empowerment definitions and the construct of power will be examined. Section II: Management Practices and Theory Comparison, will address the relationship between empowerment and participative management, McGregor's Theories X and Y, self-efficacy, and role-efficacy. The last section, Section III: Empowerment Dimensions, will discuss seven dimensions of empowerment as outlined in Wayne G. Stone's article Empowerment: Keeping the Promise of the Total Quality Revolution.

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These dimensions will be related to supporting literature and theorized parameters.

Section I: Definitions of Empowerment

Few organizations have developed an operational definition for empowerment, therefore people may tend to view the term as vague or confusing. This observation is based on the authors' informal conversations with other Air Force members. Part of the confusion may be that literature abounds with different definitions of empowerment. Webster's New World Dictionary provides initial insight by giving the verb "empower" two connotations: 1) "to give power to", and 2) "to enable". This same source defines enabling as "to provide with means, opportunity, power or authority" or simply "to make possible". Both definitions have implications reflecting the different empowerment approaches: management theory and practice, and psychology or social science (Conger and Kanungo, 1988:472). The managerial approach views empowerment from an organizational perspective, while the psychological aspect encompasses the personal role of empowerment.

The first definition given by Webster's dictionary, "to give power", is frequently equated by management theorists as the sharing of power. This definition is further likened to the management technique of delegation (Conger and Kanungo, 1988:471). Sharing power presupposes a relational consideration between the leader or manager and the subordinate. The following empowerment definitions found in the literature provide a better sense of what is implied about this relationship:

1) "An attitude or way of life whereby senior leadership allows the work force to input and have sufficient authority to effect change and improve the way an organization does business" (Air Combat Command Quality Handbook, 1991).

2) "The process by which a leader or manager shares his or her power with subordinates" (Conger and Kanungo, 1988:473).

3) "It is shared decision making; it lets team members at the lowest level of the organization make decisions that improve performance" (Johnson, 1993:47).

4) "Shifting decision making to the lowest level possible, improving quality by giving employees more control over how things are done, and flattening the organization" (Bernstein, 1992:5).

5) "Empowerment is giving people access to three key power tools: information, support and resources," states Rosabeth Moss Kanter as quoted in the article People Power by Ken Shelton.

The power-sharing definitions of empowerment suggest power is shared by granting authority and control, sharing responsibility, making people accountable, and giving them access to information, support, and resources. The definition that addresses "flattening" of the organization also suggests the power-sharing relationship between manager and subordinate is changed by organizational structure. Shared decision-making is also viewed as an approach for sharing power.

The second definition of empowerment given by Webster's dictionary, "to enable", is mainly used by social scientists (Conger and Kanungo, 1988:471). It alludes to a person's sense of self-efficacy. Self-efficacy refers to people's judgement about their capability to do specific things (Mager, 1992:32). Some authors refer to this as the "power within" or their motivation to do things (McDermott, 1992:45). The following definitions of empowerment reflect the connotation of self-efficacy:

1) "The act of strengthening individuals' beliefs in their sense of effectiveness" (Conger, 1989:18).

2) "Process of coming to feel and behave as if one has power (in the sense of autonomy or authority or control) over significant aspects of one's life or work" (Kizilos, 1990:49).

3) "The process of enhancing feelings of self-efficacy among organizational members through the identification of conditions that

foster powerlessness and through their removal by both formal organizational practices and informal techniques of providing efficacy information" (Conger and Kanungo, 1988:474).

Note, these definitions of empowerment presume people already have power. It also implies that it is management's role to "enhance" and "strengthen" a person's sense of effectiveness. These assumptions are similar to McGregor's Theory Y of management. Accordingly, McGregor's management theory will be reviewed in Section II of this chapter to determine the connection between this "power within" management assumption and how it relates to augmenting workers' feelings of effectiveness. In both empowerment definitions, power is directly or indirectly addressed. As we seek to describe empowerment, it is critical to analyze the construct of power. The knowledge gained by this evaluation can then be applied towards differentiating among the two connotations of empowerment presented earlier.

Power Construct

The construct of empowerment is derived from the root constructs of power and control (Conger and Kanungo, 1988:472). The following discussion will review the definition of power, need for power, bases of power, and aspects of power. This information will then be integrated with the construct of empowerment.

Power Definition. Power is the potential ability for a person or group to influence another person or group (Moorhead, 1989:356). People with power have the ability to influence the decisions and outcomes of other people's behavior within the work place.

Need for Power. All individuals have a deep need for power or "significance" to some degree (Mager, 1988:41). According to research conducted by Robert Tannenbaum in 1974:

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Power is not a zero-sum phenomenon, but it is expandable; employees surveyed usually do not report a desire for limited managerial power, only for increased employee power. However, managers often view power as finite, and thus perceive that an increase in employee power must be accompanied by a requisite decrease in managerial power. (Parnell, Bell, and Taylor, 1991:34)

Bases of Power. There are five bases of power: legitimate, reward, coercive, expert, and referent (French and Raven, 1959:150). The five types of power are not independent of each other (Gibson, Ivancevich, Donnelly, 1991:333). Use of one type of power can have an impact on the others. Legitimate, reward, and coercive power are prescribed by the organization. Consequently, these types of power can change as the organization changes or restructures. Expert and referent power are personal characteristics.

Legitimate Power. Legitimate power stems from the position a person holds within an organization (French and Raven, 1959:157). Organizational structure, rules, and regulations are the main sources of legitimate power. In a hierarchical sense, this type of power is often referred to as authority. Legitimate power in the Air Force can be exercised by virtue of rank, position, or both. Legitimate power is limited by value systems. When legitimate power is questioned, the holder of such power can use legal means to enforce stated requirements (Gibson, Ivancevich, Donnelly, 1991:333).

Reward Power. Reward power is defined as the extent to which a person has the ability to reward compliance. Reward power can serve as a backup to legitimate power through the position the person holds within the organization (French and Raven, 1959:156).

Coercive Power. Coercive power is the opposite of reward power. It is the ability of one person to punish or harm another person. This type of power is also described as a "temporary reactive influence" and is based on fear (Covey, 1991:104). Coercive power may be given to a person through organizational rules and regulations or it may be the result of abuse of legitimate or reward power. Position,

resources and information can be sources of coercive power (French and Raven, 1959:156). Use of coercive power can result in negative feelings and poor performance, while eroding the other forms of power.

Expert Power. Expert power refers to a person's influence attributed to their expertise or special knowledge (158). Unlike other forms of power (legitimate, reward and coercive power), expert power does not come from formal authority. A person's knowledge, education, and ability to control access to expertise and information are the sources of expert power.

Referent Power. Referent power is the "extent a person avoids discomfort or gains satisfaction by conformity based on identification" (162). A person with referent power is able to subtly influence subordinates through their behavior or personality.

Aspects of Power. Conger and Kanungo have separated power and control into two aspects to represent the different ways the constructs are related in literature. These aspects are relational and motivational power (Conger and Kanungo, 1988:472).

Relational Power. Relational power is mainly used to describe a person's perceived power in an organization. Relational power is the relative power one person has over another (472). Implied in this theory is the assumption that people who have power are more likely to meet their "desired outcomes" than those who lack power. Likewise, people who lack power will have their efforts "thwarted or redirected by those with power" (472).

Under this theory, increasing power is gained through strategy and tactics surrounding resource allocation. If power is measured in terms of resource allocation, and a manager believes empowerment is sharing resources, then the manager will feel a loss of power. This could explain why some managers equate empowering a subordinate as a loss of their power (Stone, 1993; Kizilos, 1990:51). However, this only a perception since power is not a "zero-sum phenomenon".

Motivational Power. Motivational power is normally used in psychology literature to describe power and control. In this context, power is the intrinsic belief in personal self-efficacy (Conger and Kanungo, 1988:472). Motivational power comes from a person's internal need to influence and control other people (473). A person's power needs are met when they perceive they can cope with "events, situations, and/or people they confront" (473).

Power as Related to Empowerment. So far, it has been shown how literature substantiates that people have a need for power, that power may reside in at least one of five bases, and power may be relative or internal to the individual. As power and control are the basis for empowerment, certain inferences can be made of the empowerment construct.

Like power, empowerment is not a "zero-sum phenomenon". Kanter, as quoted by Conger, states "only those leaders who feel secure about their own power outward... can see empowering subordinates as a gain rather than a loss" (Conger, 1989:23).

Empowerment as a relational construct is the "process by which a leader shares his or her power with subordinates" (Conger and Kanungo, 1988:472). This aspect of empowerment aligns with the power-sharing empowerment definitions. Empowerment would be the distribution of power versus the "hoarding of power" (Conger, 1989:17). In this sense, the focus of empowerment literature is on participative management techniques, quality circles, subordinate goal setting, and delegation (Conger and Kanungo, 1988:473).

Empowerment as a motivational construct implies "motivating through enhancing personal efficacy" (472). This view of empowerment supports the personal power or "enabling" empowerment definitions. Personal power can often encourage greater loyalty and dedication to the organization than position power (Moorhead, 1989:362). Within the "enabling" framework, empowerment literature tends to center on

enhancing the four sources of self-efficacy, and eliminating sources of powerlessness (473).

The four sources of self-efficacy, according to Albert Bandura, will be discussed in greater detail in Section II of this chapter. According to Conger and Kanungo, there are specific categories that contribute to the lowering of self-efficacy among organizational members: 1) organizational factors, 2) supervisor style, 3) reward systems, and 4) job design (476). These factors lead to a potential state of powerlessness. Their respective subcategories of sources of powerlessness are list below:

ORGANIZATIONAL FACTORS:

Significant organizational changes/transitions
Start-up Ventures
Excess, competitive pressures
Impersonal bureaucratic climate
Poor communications
Highly centralized resources

SUPERVISORY STYLE:

Authoritarian
Negativism
Lack of reason for actions/consequences

REWARD SYSTEMS:

Arbitrary allocation of rewards
Lack of competence-bases rewards
Lack of innovation-based rewards

JOB DESIGN:

Lack of role clarity
Lack of training and technical support
Unrealistic goals
Lack of appropriate authority
Low task variety
Limited participation in programs, meetings, and
    decisions that have a direct impact to on job
    performance.
Lack of appropriate resources
Lack of networking-forming opportunities
Highly established work routines
Too many rules and guidelines
Low advancement opportunities
Lack of meaningful goals/tasks
Limited contact with senior management

In summary, two connotations of empowerment are derived from two aspects of power, relational and motivational. Empowerment as a relational construct refers to the power-sharing definitions, while "enabling" alludes to the personal power definitions.

Section II: Management Practices and Theory Comparison

This section covers literature addressing participative management, McGregor's Theories X and Y, self-efficacy theory, and role-efficacy theory. Each management practice and theory will then be related to empowerment.

Participative Management. As presented in the power-sharing definitions of empowerment, shared decision-making is also viewed as an approach for sharing power. This consideration of empowerment is often equated with participative management. For this reason, it is appropriate to review and compare the concept of participative management as it relates to empowerment.

Depending on the author, participative management can be described as an "ethical imperative" (Sashkin, 1984:5), a "way to empower" (Early, 1991:14; Elliot, 1991:27), or as a management style (Petersen and Hillkirk, 1991:52). For purposes of this thesis, it is viewed as a management practice. Participative management is defined as the process in which employees are allowed to play a direct role in setting goals, making decisions, solving problems, and making changes in the organization (Sashkin, 1984:5).

Participative Management as Related to Empowerment. The definition of participation management is similar to empowerment in terms of a power-sharing connotation. It is easy to conceive how empowerment can be confused with "managed participation" (Frohman, 1992:64), however there is a difference. In essence, participative management asks for people's help, and solicits employee advice and feedback. Empowerment includes participation, but it goes beyond participation in that it requires "teaching employees to initiate

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changes on their own" (Matthes, 1992:1), and getting workers "to help themselves" (Kizilos, 1990:49). This aspect slants toward the "enabling" or a "power within" (McDermott, 1992:45) implication of empowerment.

McGregor's Theories. In 1960, Douglas McGregor, in his book The Human Side of Enterprise, introduced two management theories he designated as Theory X and Theory Y. These theories attempt to explain the influences on American managerial strategy. It is germane to this discussion to review both theories and relate them to the underlying assumptions of empowerment.

Theory X: Traditional View of Direction and Control. Theory X assumptions are outlined, as presented in his book, as follows (McGregor, 1960:33-34):

1) The average human being has an inherent dislike of work and will avoid it if he can.

2) Because of this human characteristic of dislike of work, most people must be coerced, controlled, directed, or threatened with punishment to get them to put forth adequate effort toward the achievement of organizational objectives.

3) The average human being prefers to be directed, wishes to avoid responsibility, has relatively little ambition, wants security above all.

McGregor contends organizational principles must have been based on Theory X assumptions about human nature. Nevertheless, he views Theory X behavior as a "consequence of a particular managerial strategy" (35). Therefore, though apparently new management strategies are developed, they become no more than "tactics--programs, procedures, gadgets--within an unchanged strategy based on Theory X" (35).

Theory Y: The Integration of Individual and Organizational Goals. Theory Y assumptions are summarized, as presented in his book, as follows (47-48):

1) The expenditure of physical and mental effort in work is as natural as play or rest.

2) External control and the threat of punishment are not the only means for bringing about effort toward organizational objectives. Man will exercise self-direction and self-control in the service of objectives to which he is committed.

3) Commitment to objectives is a function of the rewards associated with their achievement.

4) The average human being learns, under proper conditions, not only to accept but to seek responsibility.

5) The capacity to exercise a relatively high degree of imagination, ingenuity, and creativity in the solution of organizational problems is widely, not narrowly, distributed in the population.

(6) Under the conditions of modern industrial life, the intellectual potentialities of the average human being are only partially utilized.

Theory X works well for satisfying man's lower hierarchy of needs, but it cannot satisfy man's higher needs: social and egoistic (41). Social needs included in this description are those for "belonging, for association, for acceptance by one's fellows, for giving and receiving friendships and love" (37).

There are two kinds of egoistic needs: 1) those that relate to one's self-esteem, and 2) those that relate to a person's reputation. The first kind includes the need for self-respect, self-confidence, autonomy, achievement, competence, and knowledge. The second kind of egoistic need includes the need for status, recognition, appreciation, and respect (38).

In the Air Force, as in many companies, there is a recognition that people do not abide by Theory X assumptions. Nonetheless, some organizations employ practices testifying to the contrary. The director of consulting services for the Air Force Quality Center, Lieutenant Colonel Jerry P. Snow, was quoted in _Airman_ to this effect:

> Most people committed to the quality movement believe people want to do a good job and don't like idle time. But the current method of management, in some offices, has restricted subordinates, taught them they don't have the power to make meaningful changes, and therefore, destroyed their initiative. (Keane, 1992:5)

McGregor's Theories as Related to Empowerment. In essence, Theory Y's argument is "if you believe in people's abilities, they will come to believe in them" (Conger, 1989:18). Theory Y relates to empowerment by advocating intrinsic motivation, and recognizing that man's higher needs cannot be given by management. The goal of employee empowerment is to build an environment in which all employees take pride in their work and motivate themselves from within, versus extrinsic incentives (Hunt, 1992:25). Leadership can create conditions that "encourage and enable a person to seek satisfaction for himself" (McGregor, 1960:41).

Self-efficacy. In the second set of empowerment definitions characterized by the "enabling" connotation, there are three key phrases related directly or indirectly to self-efficacy: 1) enhancing feelings of self-efficacy, 2) strengthening belief in their sense of effectiveness, and 3) behaving as if one has power. Therefore, understanding the construct of self-efficacy is critical to comprehending empowerment and it's dimensions.

Self-efficacy is a term used mainly in social sciences and psychology to describe a person's belief that one can accomplish one's goals adequately in a particular situation, even when one has failed in the past (Bandura, 1977:191). Webster's dictionary defines self-efficacy as the "power to produce intended results". Most significantly, this power is not concerned with actual skills, but with the perception of capabilities (Mager, 1992:32).

Self-efficacy should not be confused with self-esteem. Self-efficacy involves an evaluation on one's ability, while self-esteem entails an evaluation of the self. However, the terms can be related under certain circumstances. For example, if a person has low self-efficacy in a particular area and believes this area is relevant to how they value themselves, then they will probably have low self-esteem in that particular area as well.

In an organizational context, there are three aspects of self-efficacy which effect how an individual perceives their capabilities: magnitude, strength, and generality. Magnitude refers to the level of task difficulty a person believes they may achieve. Strength measures the level of conviction a person has toward that magnitude. Generality is the degree to which the expectation of magnitude and strength is generalized across different situations (Gibson, 1991:132-3).

An individual's perceived self-efficacy is considered to be a good indicator of performance (Bandura, 1977:212). Albert Bandura interpreted this phenomena by explaining that "people process, weigh, and integrate diverse sources of information concerning their capability, and they regulate their choice behavior and effort expenditure accordingly" (212). There are three main areas where self-efficacy has an effect on performance:

1) Self-efficacy leads people to avoid situations they do not believe they have the capability to perform well in, and to accept job assignments they are confident they can accomplish effectively (Gibson, 1991:133). If an individual has the skill, but not the self-efficacy, they will probably not apply the skill on the job (Mager, 1992:32).

2) People who think they can perform a task will do better than people who believe they will fail (Gist and Mitchell, 1992:183).

3) Perceived self-efficacy is a better predictor of behavior in situations of unfamiliar threat, than past performance (211).

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The level of self-efficacy determines a person's perception, motivation, and performance on the job (Gibson, 1991:133). The degree of self-efficacy can be increased by means of four sources of information or "efficacy expectations": 1) enactive attainment, 2) vicarious experiences, 3) verbal persuasion, and 4) emotional arousal (195-196).

Enactive attainment alludes to an individual's competence or "authentic mastery experience" directly related to the job (Conger and Kanungo, 1988:479). Two approaches to increasing enactive attainment are by providing constructive feedback, and ensuring the individual realizes that he or she is the cause of their performance, not luck, or that the task was easy (Mager, 1992:34).

Vicarious experiences come from observing people like themselves, who have successfully accomplished a given task. This is also known as "modeling" (34).

Verbal persuasion refers to "words of encouragement and verbal feedback" used to persuade people they possess the capabilities to master a given task (Conger and Kanungo, 1988:479). Negative comments can also affect self-confidence (Mager, 1992:34).

Emotional arousal, depending on the situation, might provide "informational" significance concerning personal capabilities (Bandura, 1977:198). People may react to physical and emotional cues to "infer ability" (Mager, 1992:34). For example, a person might say, "writing is hard for me, so I don't have the ability to write." When this occurs, people are confusing the difficulty of accomplishing a task with an emotional signal that they are not good at performing the task (36).

In 1989, Jay Conger conducted a study in which he used Bandura's four sources of self-efficacy to explain the management practices of eight highly effective Fortune 500 senior executives. Conger makes no distinction between Bandura's sources of self-efficacy information and the means "empowering leaders" employed for provided sources of

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empowerment (Conger, 1989:17). He further describes their actions as "building confidence and restoring a sense of personal power and self-efficacy during difficult organizational transitions" (17).

Self-efficacy as Related to Empowerment. A person's perception of effectiveness and sense of empowerment are the same. Self-efficacy is the personal power that resides in all of us. Management cannot give this power to employees as if it were a gift or a special privilege (Bell, 1991:98).

Role-Efficacy. Empowerment appears to threaten some managers because it contradicts traditional control-oriented strategies, and provokes a range of perceptions of how employees view their roles (Kizilos, 1990:50). Role efficacy contends that a person's view of their role in the organization will determine a person's effectiveness in that role.

Role efficacy refers to the degree to which a person's organizational role corresponds with that person's skills and abilities to perform within that role. Role efficacy consists of ten dimensions: centrality, integration, proactivity, creativity, interrole linkage, helping relationship, superordination, influence, personal growth, and confrontation (Pareek, 1980:143-5).

Centrality. Centrality refers to how critical an individual's role is to the organization. When an employee feels their role is near the center of the organization, role efficacy is rated higher than a person who feels their function is peripheral to the organization.

Integration. Integration refers to how well a person's strengths are integrated with their role. Role efficacy is high when a person's abilities, desires, and skills are satisfactorily used in that person's job within the organization. People work better when they feel their skills and abilities are integrated with the needs of the

organization. A feeling of distance between a person's abilities lowers role-efficacy.

Proactivity. Proactivity encompasses the initiative a person can exercise in organizational situations. High role efficacy occurs when a person has the ability to take initiative within their organizational role. Role efficacy is lower when the individual is forced to react to the expectations of others for that role.

Creativity. Creativity refers to how a person perceives themselves when they do something new or unique in their roles. Creativity works closely with initiative, increasing role efficacy as people are allowed to be creative within their jobs. Routinism decreases role-efficacy in this dimension.

Interrole Linkage. Interrole linkage refers to how people perceive interdependence with others in the organization. When a person's role is interrelated and linked to other organizational roles, that person's role efficacy is increased. It gives them satisfaction from helping others meet organizational roles while understanding the larger goals of the organization. When people lack interrole linkage, they feel isolated within the organization.

Helping Relationship. The helping relationship dimension of role efficacy measures perceptions of what people contribute to the organization. Role efficacy increases when a person knows they will receive help and will be able to give help to other members of the organization. When a helping atmosphere is not present, people feel hostile and role efficacy decreases.

Superordination. Superordination refers to the ability of people to contribute to a larger part of the organization. Role efficacy increases when a person feels they are contributing value to the overall organization.

Influence. Role efficacy is high when a person feels they have influence within their organizational role. As with superordination, influence makes a person feel they are contributing something of value to the organization. A person feels powerless when they have no influence in the organization.

Personal Growth. Personal growth is very important within the context of role efficacy. People must feel they are able to grow personally within their organizational role in order to have high role efficacy. Without the promise of personal growth, people become stagnant and often leave their jobs for another with higher potential for personal growth.

Confrontation. Confrontation refers to how free a person feels about mentioning a problem. The ability and willingness to confront organizational problems contributes to high role efficacy. The higher the role efficacy of a person, the more likely he or she is to solve problems, without referring them to supervisors or pretending the problems are not there.

Role-efficacy as Related to Empowerment. Most of the empowerment definitions advocate making decisions at the lowest level of the organization. High role efficacy encourages people to make responsible decisions, because their "interests are more closely aligned with those of the organization" (Shelton, 1992:8).

People feel significant if they can make a difference to the success of the organization (Bennis, 1989:38). If a person believes their personal roles are not important, they will not be willing to go beyond the call of duty, even when "sticking one's neck out" is encouraged (Thomas, 1991:11).

Effective empowerment efforts result from "co-mission, co-ordination, and co-operation" (Shelton, 1991:7). It requires people to view their roles as integrated with those of the organization.

<u>Section III</u>:   <u>Empowerment Dimensions</u>

Stone (1993) outlined seven dimensions of empowerment in his

article <u>Empowerment</u>:   <u>Keeping the Promise of the Total Quality</u>

<u>Revolution</u>.   The meaning of each dimension will be reviewed to help

identify underlying parameters in each dimension.   The seven empowerment

dimensions are cognizance, competence, control, contribution, community,

commitment, and continuity.

<u>Cognizance</u>.   A person's understanding of the organization and

their role in the organization, is the first step toward empowerment.

In order for a member to operate effectively, it is important they know

the organization's structure, processes, methods, and goals (Stone,

1993).

This knowledge of their organization "lets them understand and

contribute to organizational performance (Bowen and Lawler, 1992:32).

This contribution may be in the form of a team.   However, a team needs

to know the process they own.   Knowledge of the organization must

include a clear organizational vision, goals, and objectives.

There is a clear relationship between cognizance and the role-

efficacy dimension of centrality.   A person is more likely to feel their

role is critical to the organization if they understand how it operates,

and can identify with the vision.

<u>Competence</u>.   People feel competent when their job or skills are

aligned with their job, they are aware of the informal ways of getting

the job accomplished, and they have access to processes (Stone, 1993).

Job or skill alignment refers to how a person's job can optimize

their skills.   In some cases, the skills the individual brings to the

job must be improved to match the requirement of the job.   This point is

supported by Stone (1993) in explaining that "the degree to which there

is a skill/job mismatch, people will feel less confident in their

ability to successfully achieve the goals associated with the job".

Understanding the informal ways of getting the job done is part of the "socialization process" workers should experience to increase their sense of power (Stone, 1993). Unfortunately, the current informal socialization process may actually indirectly advocate withholding information from trainees to make them "pay their dues" (Stone, 1993). Lack of access to communication systems can be used a means to limit a person's power.

The dimension of competency is related to the concept of self-efficacy. As discussed in the previous sections, one of the elements required to increase a person's sense of effectiveness is "enactive attainment" which is also known as job mastery. Knowledge can provide a person with personal power. However, if management believes knowledge takes away power from management, then they will limit access. Communication systems are a common approach to limiting access to information:

> Communication systems are often misaligned because they are designed by people with a scarcity mentality, who have a hard time building trust with other people. They are threatened by competency around them.   (Covey, 1991:186)

Control. This dimension of empowerment clearly states people need control over their job, if they are to do their best. One of the characteristics of empowered people is the "ability to exert power and influence and to make a difference when it matters" (Macher, 1988:41). This also relates to the role-efficacy dimension of influence. People gain control over their jobs through decision making, responsibility, and authority.

Managers often view control as placing limitations on people (Stone, 1993). This tends to be exercised in the form of coercive power. One of the reasons managers are unwilling to give control, is the fear that people may decide to do things not related to the goals. Managers may actually be invoking McGregor's Theory X assumptions about the nature of people by presupposing people need to be coerced into working, and will not take responsibility for their work.

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For people to take responsibility for their work and not make decisions contrary to organizational goals, they must have understanding and have well-defined goals. This relates back to the dimension of cognizance. A person will take responsibility for their decisions, when they "understand how their performance expectations are linked with the organization" (Byham, 1991:10).

Having responsibility does not imply having authority. A person will be reluctant to take responsibility for a process he or she has no authority to change. Authority is granted to people who are trusted and competent (Maccoby, 1992:50). Authority must include accountability as a condition of empowerment (Dobbs, 1993:56).

Contribution. Empowered people feel they can contribute to their organization, and that their contributions are valued by others within the organization" (Stone, 1993). Essentially, people need to feel they ".make a difference to the success of the organization" (Bennis, 1989:39).

Understanding the organization's vision is significant ⌣ getting workers to participate in the decision making process (Byham, 1991:10). People need a sense of integration between their goals and the organization's goal. This relates to the role-efficacy dimension of integration. People are reluctant to contribute when they do not understand their environment. Note, this is also can be an element of the dimension of cognizance as a measurement of awareness. Participation may also be a function of workers and management's involvement dimension, as will be discussed under the dimension of commitment.

Community. In an empowered organization, people feel part of a community (Stone, 1993; Bennis, 1989:39). The dimension of community defines the "commonality of values and beliefs" of people working within the organization, customers, suppliers, and families" (Stone, 1993).

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Community definitely relates to the role-efficacy dimensions of interrole linkage and helping relationship. When people do not have a feeling of community, they feel isolated. The "helping relationship" role-efficacy dimension proposes people need to know they will receive help and will be able to give help to other members of the organization to increase effectiveness. Stone (1993) emphasizes this aspect of community:

> An important way to build a feeling of contribution is to encourage the giving and getting of help to and from others in the organization. (Stone, 1993)

Commitment. This dimension describes two inseparable areas of empowerment, 1) what the individual does to increase their sense of effectiveness, and 2) what leaders do to create an environment where empowerment thrives.

To increase a person's sense of effectiveness, they need to be encouraged to be "more entrepreneurial, self-managing, autonomous" (Shelton, 1991:7). This approach is aligned with the concept of self-leadership. Self-leadership refers to an individual's effectiveness as a follower (Manz and Sims, 1990:17). Self-leadership involves developing a sense of autonomy, self-control, setting personal goals and self-rewards (45).

Underlying this dimension of empowerment is the realization that increasing personal power represents strength for the entire organization. In this sense, management must become involved in providing the environment where an individual can increase their personal power. This "power within" concept has been discussed as part of the "enabling" definition of empowerment. Enabling workers includes strengthening the sources of self-efficacy information previously discussed in this chapter. In general, this sources of information address modeling (i.e. setting a good example as a leader), constructive feedback, and vicarious experiences.

<u>Continuity</u>. Empowerment, as a process, implies a need for continuity. For empowerment to survive leadership changes, "the leader must assure the continuity of the process" (Stone, 1993).

Leadership must make a long-term commitment to organizational growth. This can be accomplished by encouraging initiative and strengthening a member's belief in the organization's values (Stone, 1993). This could be reflected within an organization's recognition program or philosophy. For example, management can give mixed signals by encouraging on one hand, but rewarding opposite behavior (Stone, 1993).

Summary

This chapter began by analyzing the different definitions of empowerment, and the relationship between empowerment and other constructs. Section II reviewed the relationship of empowerment to prior and current management practices and theories. The final section analyzed seven theorized dimensions of empowerment, possible parameters, and their relationship to the definitions of empowerment and prior theories.

III. Methodology

Overview

The goal of this research was to develop an instrument capable of measuring empowerment, and provide recommended general strategies on how to create an empowered organization. This chapter describes and explains the methodology used to construct, test, and interpret the results of the authors' pilot empowerment questionnaire.

This chapter begins by describing Stone's seven dimensions of empowerment as the basis for the methodology. The remaining sections describe the rationale for each of the authors' objectives:

1) Research Objective One: Understand Definitions and Theories Related to Empowerment.

2) Research Objective Two: Identify Theorized Parameters Underlying Empowerment.

3) Research Objective Three: Develop Empowerment Instrument.

4) Research Objective Four: Test Adequacy of Behavioral Statements.

5) Research Objective Five: Develop Operational Empowerment Instrument.

6) Research Objective Six: Develop Recommended Instrument Feedback Format.

Wayne G. Stone's Theorized Empowerment Dimensions

Wayne G. Stone, an Air Force consultant in the areas of empowerment and leadership, delineated the framework to understanding empowerment in his unpublished article Empowerment: Keeping the Promise of the Total Quality Revolution. In his article, he describes seven dimensions of empowerment. These dimensions are cognizance, competence, control, contribution, community, commitment, and continuity. However, he suggests these dimensions be employed as a "point of departure for experimentation rather than a comprehensive model of reality" (Stone,

1993). In an attempt to specify a comprehensive model to measure empowerment, the authors used Stone's article as a "point of departure" in determining the dimensions and parameters of empowerment.

Research Objective One: Understand Definitions and Theories Related to Empowerment

The primary goal of this research was to uncover all literature pertaining to empowerment. Based on Stone's article, empowerment possibly existed within other theories or management practices. Therefore, it was necessary to review literature for key terms which may be related to empowerment. These key words and phrases were power, teamwork, participation, delegation, and decentralization. These reviews in turn identified other related areas such as self-efficacy, role efficacy, and McGregor's Theories X and Y.

Research Objective Two: Identify Theorized Parameters Underlying Empowerment

A comprehensive review of Stone's seven theorized dimensions of empowerment was conducted in Section III of Chapter II: Literature Review. The literature review in this area had two main purposes. The first objective was to identify possible measurement parameters for each dimension, as delineated in Stone's article, and as implied by supporting literature. The second objective was to identify other empowerment dimensions, if applicable, and determine if the dimensions were encompassed totally or partially by another dimension.

The following represent definitions of Stone's theorized dimensions of empowerment, listed by parameter, as extracted from related literature:

1. **Cognizance**

    a. **Organizational Awareness**. Measures a person's understanding of their place in the organization. Includes a person's knowledge of the organizations structure, procedures and processes.

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b. <u>Goals</u>. Measures a person's knowledge of the organizational goals and mission.

2. <u>Competence</u>

a. <u>Job/skill Alignment</u>. Measures the degree individual skills match job requirements.

b. <u>Social Development</u>. Measures the degree individuals are encouraged to use their skills effectively.

c. <u>Information Access</u>. Measures a person's access to supplies and information needed to perform their jobs.

3. <u>Control</u>

a. <u>Authority</u>. Measures a person's ability to get the job done.

b. <u>Responsibility</u>. Measures a person's understanding of their job and sense of duty.

4. <u>Contribution</u>. Measures the extent a person believes accomplishment of their personal goals contribute to organizational goals, and how an individual perceives their work to be significant to the organization.

5. <u>Community</u>

a. <u>Commonality</u>. Measures the extent a person's personal values are linked with the values of coworkers, customers, suppliers, and families.

b. <u>Interaction</u>. Measures the degree a person interacts with others by getting and giving help.

6. <u>Commitment</u>

a. <u>Management Involvement</u>. Measures management's involvement in building a sense of effectiveness. This involves providing support of decisions, and the strengthening sources of self-efficacy (i.e. feedback).

b. **Worker Involvement**. Measures an individual's sense of effectiveness. Refers to the worker's sense of autonomy, self-control, and intrinsic motivation.

7. **Continuity**

a. **Growth**. Measures the extent growth and initiative is encouraged in an organization. This also includes the organization's emphasis on long-term goals and strategies.

b. **Recognition**. Measures the extent proper and timely recognition is given to workers.

Research Objective Three: Develop Empowerment Instrument

Research Objective Three involves the development of behavioral statements aligned with the theoretical parameters of empowerment as described above in Research Objective Two. The authors developed a number of statements for each of Stone's seven dimensions of empowerment based upon definitions as stated in his article. These statements were extracted from the literature review and from the researchers' prior work experiences.

In addition to the behavioral statements, five demographic questions were developed to further refine questionnaire results. The demographic questions seek to group questionnaire responses by time in current assignment, organizational affiliation, organizational level, level of supervision, and level of management. These groupings will provide questionnaire respondents with valuable information about their organization's level of empowerment among these different groupings of personnel.

As an added source of information, the authors asked questionnaire respondents to provide comments to further explain their feelings about empowerment in their organization or workplace, and to identify any shortcomings or limitations to the pilot questionnaire.

Research Objective Four: Test Adequacy of Behavioral Statements

The seven groupings of behavioral statements corresponding to the seven theorized dimensions of empowerment were statistically tested using Cronbach's alpha analysis and common factor analysis. Each of these techniques is described below.

Prior to analyzing the results of the questionnaire, respondents were asked to respond to each behavioral statement based on their agreement or disagreement with the statement. A Likert scale was used which was incremented in seven steps: 1) Strongly agree, 2) Agree, 3) Somewhat agree, 4) Undecided, 5) Somewhat disagree, 6) Disagree, and 7) Strongly disagree. The authors used a Likert scale because it provided discrete results that were easily analyzed.

To eliminate bias caused by respondent fatigue, an equal number of two versions of the questionnaire were administered. Both versions contained the same statements, but were sorted differently. Appendix A contains version two of the questionnaire.

Prior to performing statistical analysis, the results of each version of the questionnaire were sorted into the same sequence of behavioral statements for proper analysis.

Sample Size. To provide results from a wide range of personnel throughout the Air Force, questionnaires were sent to all 350 personnel in a large System Program Office (SPO) at Los Angeles Air Force Base (LAAFB), California, and to 60% of the 250 personnel in a small SPO on the base. Both SPOs contain a mixture of military officers, Department of Defense civilian employees, and contractor employees. Throughout this thesis, the large SPO is referred to as Organization A and the small SPO is referred to as Organization B.

The questionnaire was also administered to 60 Integrated Product Development attendees at the June 1993 seminar conducted on Wright-Patterson Air Force Base, Ohio, and to 120 new Air Force Institute of

Technology students. Overall, 680 questionnaires were administered within a total population of 780 personnel.

Statistical analysis was performed on all returned questionnaires as one large group. However, the authors provided specific results to Organization A and Organization B individually.

The authors desired to be 95% confident results of the questionnaire would accurately portray the level of empowerment in the organizations sampled. To obtain this level of confidence, a total sample size of 258 completed questionnaires were needed.

The necessary sample size was computed using the following formula:

$$n = \frac{N\,(Z^2)\,X\,(p)(1-p)}{(N-1)(d^2) + [(Z^2)\,X\,(p)(p-1)]} \qquad (1)$$

where:

    n = sample size

    N = population size

    p = maximum sample size factor (.5)

    d = Desired tolerance (.05)

    Z = factor of assurance (1.96) for 95%
        confidence level

Cronbach's Alpha. To decrease the number of behavioral statements included in the analysis, the authors subjected the data to a preliminary statistical analysis using Cronbach's alpha. In addition, Cronbach's alpha analysis served as a measure of the questionnaire's reliability to accurately measure the hypothesized factors of empowerment.

Cronbach's alpha is a statistical measurement which enabled the authors to determine which of the behavioral statements to drop from the database for more effective factor analysis (described below). Each of

the seven dimensions of empowerment were analyzed separately as shown in Tables 2 through 8 in Chapter IV.

Larger values of Cronbach's alpha may indicate a particular behavioral statement does not contribute to the measurement of empowerment. It may also indicate a particular behavioral statement measures the same aspect of empowerment as another behavioral statement.

Individual behavioral statements with substantially higher alpha coefficients than the group alpha coefficient were dropped from the analysis sequentially beginning with the highest alpha factor (Comrey, 1992:407). The remaining statements were used in common factor analysis to confirm or deny the existence of Stone's seven dimensions of empowerment as described below.

Factor Analysis. Factor analysis is a statistical method (performed in this thesis by Statistical Analysis System (SAS), Version 6.07) which enables analysts to determine the relationships among a large number of variables (1). It aims to find the smallest number of factors described by existing variables. As previously stated, the authors used 115 behavioral statements (the variables) to confirm the existence of Stone's seven dimensions (the factors) of empowerment.

The completed factor analysis will either confirm or deny the existence of these seven dimensions of empowerment, i.e., the analysis may indicate more, less, or exactly seven dimensions of empowerment. It may also indicate the existence of other dimensions to empowerment not addressed in Stone's article.

Factor analysis generally involves five steps (5): 1) selection of variables, i.e., 115 behavioral statements, 2) completion of the matrix of correlations among the behavioral statements, 3) extraction of the unrotated factors, 4) rotation of the factors, and 5) interpretation of the rotated factor matrix. Each step is explained below:

Selection of Variables (Behavioral Statements). As
described above, the questionnaire consisted of 115 behavioral
statements pertaining to Stone's seven dimensions of empowerment. These
statements were based on prior work experiences of the authors in
various military support organizations over the last 10 years. In
addition, five demographic questions were included in the questionnaire
for information purposes, but omitted from the factor analysis.

The number of behavioral statements included in the factor
analysis were decreased by analyzing the responses to the statements
using Cronbach's alpha as described above. Statements which were
redundant or did not contribute towards the measurement of empowerment
were deleted from the factor analysis.

Comrey (207) states the number of variables (behavioral
statements) included in factor analysis should be at least five or six
times greater than the expected number of factors. Since the authors
wish to extract seven possible factors, they included at least 42 (7
factors X 6 times) behavioral statements.

Correlation Matrix. The matrix of correlation among the
behavioral statements was constructed by SAS using raw data input from
pre-coded computer sheets used by questionnaire respondents.

Correlation coefficients range from -1 to +1. The larger positive
or negative values indicate a strong linear relationship between any two
behavioral statements. Values closer to zero show a weaker relationship
between the statements (Iman, 1989:410).

Extraction of Unrotated Factors. The results of SAS factor
extraction include a table of eigenvalues for each behavioral statement,
communality values for each behavioral statement, an unrotated factor
pattern, and a rotated factor pattern.

The table of eigenvalues was used to determine the appropriate
number of factors to extract and interpret as described in the Scree
Test below.

Communality values indicate the amount of overlap between the behavioral statements and the factors they measure (Comrey, 1992:8). For example, if the communality of a behavioral statement is 1, that indicates the statement completely overlaps all the factors. At the other extreme, a communality value of zero indicates the behavioral statement does not overlap any of the factors (8).

The unrotated and rotated factor patterns consist of columns of numbers with each column representing a factor. The number of rows is equivalent to the number of behavioral statements in the analysis. The numbers in each column represent factor loadings. As with correlation coefficients, larger loadings indicate a stronger relationship between each behavioral statement and its corresponding factor.

Factor Extraction Method. The authors used the principal factor method to extract factors from the data. It is the most commonly used factor extraction method (52) and provides solutions which are very close to the original manual centroid method of factor extraction (78). The centroid method was the most commonly used factor extraction method before the advent of computers and is still used as the basis for historical studies and for teaching purposes (52).

Number of Factors to Extract. Determining the number of factors to extract from available data is important because the maximum number of factors extracted may be equal to the number of behavioral statements included in the analysis. Although there is no definitive solution to determine the number of factors to extract, there are three recommended procedures which may be used to determine a reasonable number of factors.

These recommended methods are: 1) extract factors until the factor loadings trail off into insignificance (106), 2) extract factors until the sums of squares of the loadings on the extracted factors are no longer dropping, but maintaining relatively low and steady values (106), or 3) use the Scree Test (107).

The Scree Test advocates extracting factors until there is a break in the eigenvalues. This break typically occurs between the small number of major factors and the large number of insignificant factors.

Each of these methods may be used independently or they may be used together as a guide for determining the right number of factors to extract. Whichever method is used, however, the best number of factors usually results from trial and error (193). The authors used the Scree Test to extract the appropriate number of factors from the data because it provides a visual representation of the break in major and minor extracted factors.

Rotated Factors. In themselves, unrotated factor extraction values provide meaningless data, so the factors must be rotated to obtain interpretable results. These unrotated factor extraction values are meaningless because they indicate the strength or weakness of a behavioral statement to each of the extracted factors without regard to that factor's individual and often detailed characteristics (9).

When the factors are rotated, it becomes more obvious which behavioral statements distinctly describe which factor. As an example, unrotated factor extraction values are equivalent to giving a student one overall grade for completion of a degree without showing the grades awarded for each individual class completed. Every attribute of the student's performance is combined into one grade without regard for performance in each subject studied. For most applications, it is a meaningless score.

Rotated factors are mathematically equivalent to unrotated factors, but are more meaningful and useful for analytic purposes. At first glance, the rotated factor matrix looks very similar to the unrotated factor matrix. Upon further investigation, it becomes apparent that groups of behavioral statements correlate to a specific factor in the rotated factor matrix.

For more information about unrotated factors and rotated factors, see A First Course in Factor Analysis by Andrew ⌐. Comrey and Howard B. Lee.

Rotation Method. The authors used the Kaiser Varimax method of factor rotation. The Varimax method is the most popular rotation method used today (186). Although it is sometimes considered inferior to the Quartimax method, it is widely used because it tends to "push high loadings higher and low loadings lower (187)." This eliminates medium-sized loadings which are difficult to interpret.

Factor Loadings. Table 1 shows a listing of possible factor loadings and a rating of their use in factor analysis (243). These ratings were useful in determining the strength of relationship between behavioral statements and extracted factors. Those behavioral statements with higher ratings were retained for interpretation, and those statements with low ratings were discarded from the analysis.

Table 1

FACTOR LOADINGS

Orthogonal Factor Loading	Rating
.71	Excellent
.63	Very good
.55	Good
.45	Fair
.32	Poor

Interpretation of Rotated Factor Matrix. Interpretation of the extracted factors is very subjective. Each group of correlated behavioral statements must be studied using all available knowledge and pertinent information. As stated in Comrey (11), "the correctness of interpretations based on factor analysis results must be confirmed by evidence outside the factor analysis itself."

It is not enough to identify each factor based on a cursory look at its correlated behavioral statements. Each group of statements must be studied to determine their interdependencies and what aspect of empowerment they measure or describe as a group.

The authors' interpretation of these groups of behavioral statements centers on the major factors extracted from the data. The minor factors were not interpreted because it is probable they contain information of a very general nature or information that is already accounted for in the major factors (209).

Limitations of Factor Analysis. There are a number of limitations within factor analysis. They are:

Diversity in Conduct of Factor Analysis. There are many different ways to conduct a factor analysis (11). Given the same set of data, eleven analysts will come up with eleven different solutions, each with his/her own set of assumptions and interpretations. These differences are a result of the analysts' personalities, educational backgrounds, etc., and from the wide variety of factor analysis methods as discussed below.

Rotation Methods. There are various types of rotation methods (13), each of which will provide a different solution to a factor analysis. For example, SAS includes seven different rotations methods: Varimax, Quartimax, Equamax, Orthomax, Orthoblique, Promax, and Procrustes. These are not the only methods available.

Factor Extraction Methods. There are also many different types of factor extraction methods. SAS uses the principle factor method, principal components, unweighted least squares, image, alpha, and maximum likelihood. There are also others such as the centroid method and the Harris components analysis. As with rotation methods, each extraction method will result in a different factor analysis solution.

Computerized Methods. Factor analysts often use computerized methods of factor analysis without regard to data characteristics or in-depth study of the factor analysis results. This may result in a mathematically verifiable solution that doesn't make much sense to the users of the data.

Communality Values. Communality values must be estimated during factor extraction for most factor extraction methods. The factor analysis results will differ substantially based on these estimated communality values (78).

Method of Data Collection. The data was collected by distributing 120-item questionnaires to individuals in their various workplaces. This impersonal method of data collecting, may result in data that is not completely accurate because individual respondents may not be able to grasp the significance and importance of the questionnaire results.

Workplace distractions may also affect the quality of the respondents' answers.

Objective Five: Develop Operational Empowerment Instrument

Each statistically extracted factor was identified and labeled based on its associated grouping of behavioral statements (those statements with high factor loadings). To do this, each behavioral statement which related to a particular extracted factor was examined and classified according to one of the original seven dimensions of empowerment as described in Objective Two.

When all behavioral statements were examined, the most representative statements for each factor were chosen for inclusion in the final questionnaire to be administered to various Air Force organizations. The most representative statements for each factor were selected based on a combination of high factor loadings and contribution to interpretation of that factor.

Objective Six: Develop Recommended Instrument Feedback Format

The purpose of this research objective was to provide an organization with a functional means of evaluating the results of the empowerment instrument, and/or incorporate the instrument as an educational tool. The feedback format consisted of evaluation of score significance and recommended general strategies by empowerment dimension. This research objective will be covered in Chapter V.

The format of the feedback sheet was divided into three sections. The first section consisted of the questionnaire. The second section contained the score sheet by dimension. The scales were based on the instrument's Likert scale. The third section contained a listing of strategies as related to each of the six dimensions of empowerment.

The feedback format varied slightly for organizational analysis. Organizations A and B were the basis for analysis. It included demographic data, a summary of the aggregated scores, and a listing of the scores by demographic category.

Summary

This chapter outlined and explained the methodology used to develop and administer an empowerment instrument to Air Force organizations. The methodology was based primarily on empowerment literature, prior work experiences of the authors, and on statistical factor analysis with interpretation of the results.

IV. Analysis of Data

Overview

This chapter presents findings of the research effort as described in Chapter III: Methodology. The findings are presented in the same order as the research objectives.

Research Objective One: Understand Definitions and Theories Related to Empowerment

Research Objective One was introduced in Chapter II: Literature Review. As expected, the term empowerment was linked to other constructs, theories, and management practices.

Power and control were found to be the root constructs of empowerment, thus helping to explain the two main connotations of empowerment—power-sharing and personal power. For purposes of determining the underlying theorized parameters and behaviors of empowerment in an organizational environment, both connotations of empowerment (power-sharing and enabling) were considered relevant. In Chapter II, discussion of Stone's (1993) theorized dimensions showed how both definitions were incorporated within the measurement instrument.

Participation appears to be a way to empower, but not necessarily equated to empowerment. Self-efficacy, a person's sense of effectiveness, explained the personal power aspect of empowerment. Role efficacy, how a person perceives their role in the organization, defined the relationship between a person's role and their potential to be empowered. McGregor's Theories X and Y explained the underlying influences of managerial strategy, in terms of assumptions management makes about the nature of people. Theory Y: The Integration of Individual and Organizational Goals, proved to be an essential theory in evaluating sources of empowerment.

Research Objective Two: Identify Theorized Parameters Underlying Empowerment

Section III of Chapter II: Literature Review, satisfied Research Objective Two. The seven empowerment dimensions theorized by Stone (1993) were clearly substantiated by other experts in the area of empowerment. Other authors had different ways of categorizing the dimensions, which led to the possibility that some of the seven dimensions may be part of another. This will be further addressed during discussion of the rationale for selecting the final dimensions (factors) of empowerment in Research Objective Six.

Measurement parameters for each dimension were identified as part of the methodology in Chapter III. Conger and Kanungo argue that power-sharing "may be only one set of conditions that may (but not necessarily) enable or empower subordinates (Conger and Kanungo, 1988:474). In an effort to encompass all the conditions or parameters of empowerment, the authors included both connotations in the development of empowerment instrument.

Research Objective Three: Develop Empowerment Instrument

The authors included 115 behavioral statements in a pilot questionnaire describing various aspects of Stone's dimensions of empowerment. In addition to the behavioral statements, five demographic questions were included in the questionnaire.

Most questionnaire respondents provided input to all 115 behavioral statements and five demographic questions. Those respondents who omitted any responses were not included in the analysis. This was due primarily to SAS's lack of ability to complete statistical factor analysis on input with missing data values. Results of the completed analysis are described below.

In addition to responses to the behavioral statements and demographic questions, many questionnaire respondents provided a wide variety of comments about the questionnaire and about the level and

aspects of empowerment within their respective workplaces and organizations. These comments are listed in Appendix D.

Questionnaire statements and demographic questions are shown below. The demographic questions are listed in Table 2, the seven sets of statements follow in Tables 3 through 9, each grouped according to the dimension of empowerment they represent.

Each demographic question and behavioral statement is preceded by a one or two-letter code. These codes easily identify each question or statement throughout the remainder of this thesis and in the statistical output presented in the appendices. The first letter in each behavior statement code refers to the theorized dimension of empowerment. The second letter is an arbitrary letter designated for tracking purposes. The following represents the coding for the first letter for Tables 3 through 9:

A = Cognizance
B = Competence
C = Control
D = Contribution
E = Community
F = Commitment
G = Continuity

Behavioral statement codes followed by a numeral "2" indicate the statement is reversed scored. Reversed scored behavioral statements are negatively worded statements that must be made positive for statistical analyses performed upon the data. These statements were made positive by using the following formula: CODE2 = 8 - CODE. For example, if a questionnaire respondent marks "7" for negatively worded statement, the above formula will convert it to "1" (8 - 1 = 7) for the statistical analysis. Reverse scoring does not affect interpretation of the final questionnaire results, but it does aid in accurate statistical analysis of the data.

Table 2

DEMOGRAPHIC QUESTIONS

A   About how long have you been assigned to your program office?

1. Less than 6 months
2. 7 - 12 months
3. 13 - 18 months
4. 19 - 23 months
5. 2 - 3 years
6. 4 years or more

B   Your affiliation:

1. Air Force (military)
2. Air Force (civilian)
3. Contracted support (i.e. Aerospace, TASC)
4. Other_____

C   Which category best describes your organizational level?

1. Team member
2. 4-letter
3. 3-letter
4. Senior Leadership

D   Are you a supervisor?

1. Yes
2. No

E   Which category best describes your level of management?

1. Operational (non-supervisory)
2. Supervisory
3. Middle-management
4. Executive management
5. Staff/Non-managerial
6. Other _____

Table 3

COGNIZANCE STATEMENTS

AA I understand the formal rules of my organization.
AB I understand the informal rules of my organization.
AC Organizational goals affect my job.
AD Organizational goals affect me.
AE There are unnecessary levels of management in my organization.
AF I know the chain-of-command in my organization.
AG My work section maintains written policies and procedures.
AH I know how to handle routine procedures within my work section.
AI I know how to handle non-routine procedures in my work section.
AJ We use formal procedures to meet goals in our organization.
AK We use informal procedures to meet goals in our organization.
AL I know how to get my job done.
AM I know my work section's goals.
AN I meet my work section's goals.
AO I understand the goals of my organization.
AP I understand the purpose of my organization.

Table 4

COMPETENCE STATEMENTS

BA My job is challenging.
BB Job requirements allow me to use my abilities.
BC My skills match job requirements.
BD Finishing assigned work on time is a challenge for me.
BE I don't have enough work to do.
BF My supervisor delegates tasks to me regularly.
BG I have flexibility to match job requirements with my skills.
BH I have well-defined job requirements.
BI I know what my supervisor expects from me.
BJ Relevant information is available to everyone in my work section.
BK I can ask for information from others in the organization.
BL I have access to the materials I need to perform my job.
BM I understand performance measures in my work section.
BN My supervisor gives me the information I need to do my job.

Table 5

CONTROL STATEMENTS

CA I find myself withholding information from my supervisor
to make my job easier.
CB My supervisor consults workers before making worker-
related decisions.
CC I am proud to work in my organization.
CD My supervisor supports decisions I make.
CE I have authority to develop work processes to meet work
section goals.
CF I have authority to make routine decisions.
CG My supervisor holds me accountable for decisions I make.
CH Other employees overrule my decision.
CI My supervisor overrules my decisions.
CJ I need permission to deviate from assigned duties.
CK My supervisor insists I perform my job his/her way.
CL I participate in decision-making processes within my
work section.
CM My supervisor gives me advance notice on deadlines.
CN Regulations constrain my work section's goals.
CO My supervisor trusts my judgement.
CP My supervisor gives me increasing responsibilities.
CQ I find myself being defensive on the job.
CR I understand the responsibilities of my co-workers.
CS My supervisor informs me when my responsibilities
change.
CT I feel personally responsible for duties assigned to me.
CU I understand my responsibilities.
CV I decide how to fulfill my job responsibilities.
CW My supervisor sets my goals for me.
CX I set my own work-related goals.

Table 6

CONTRIBUTION STATEMENTS

DA My supervisor lets me know the results of my
    suggestions.
DB My work is important to meeting organizational goals.
DC My supervisor provides me with honest performance
    feedback.
DD I receive timely feedback on my job performance.
DE My work often goes unnoticed.
DF I have a feeling of accomplishment from my job.
DG My supervisor frequently lets me know how I am
    performing on the job.
DH I sometimes forget when it's time to go home.
DI I am excited about my job.
DJ I feel responsible for products that come out of my work
    section.
DK I freely make suggestions about policies in my work
    section.
DL I can make suggestions about procedures in my work
    sections.
DM Co-workers appreciate my work.

Table 7

COMMUNITY STATEMENTS

EA I have a genuine respect for my supervisor.
EB I have a genuine respect for my co-workers.
EC My organization feels like a large family.
ED I feel like the organization's problems are my own.
EE My co-workers and I share a common commitment to quality
    products and services.
EF I enjoy working with people in my section.
EG My supervisor treats workers in my organization with
    respect.
EH I learn from my co-workers.
EI Teamwork is important within my work section.
EJ I enjoy socializing with my co-workers.
EK I willingly help my co-workers with their work.
EL I can ask my supervisor questions about my job.
EM My supervisor keeps me focused on the goals of the
    office.
EN Co-workers reject me when I make mistakes.
EO My supervisor encourages me to discuss new ideas with my
    co-workers.
EP I have pertinent information withheld from me.

Table 8

COMMITMENT STATEMENTS

FA My supervisor is concerned about me as a person.
FB My supervisor compliments our work section when we attain our goals.
FC My supervisor is concerned about problems in our work section.
FD My supervisor defends me when necessary.
FE My supervisor helps me find ways around regulations that impede performance.
FF Group recognition is important in my organization.
FG Individual recognition is important in my organization.
FH Recognition is given in a timely manner in my work section.
FI Awards are given in a timely manner in my work section.
FJ My work section uses customer input to establish performance measures.
FK My supervisor appreciates my ambition.
FL Promotions within my organization are fair.
FM My supervisor encourages me to develop my skills.
FN Training is an on-going process in my work section.
FO I have personal goals for my job.
FP While at home, I think about what I am going to do at work the next day.
FQ I willingly work long hours when necessary.
FR I feel satisfied with my work performance.
FS I try to find better ways of performing my job.
FT I maintain high standards of job performance when my supervisor is not present.
FU I am willing to improve my skills and abilities to perform my job better.

Table 9

CONTINUITY STATEMENTS

GA I care about the future of my organization.
GB If my supervisor transferred, I would prefer to transfer also.
GC I have control over my job regardless of leadership changes in my organization.
GD Training is a priority in my organization.
GE There is opportunity for advancement within my organization.
GF My supervisor encourages me to ask questions.
GG My supervisor encourages initiative on the job.
GH My work section structure allows me to carry on my job without supervision.
GI My supervisor trusts me to get my work done.
GJ My organization is progressing toward a predetermined goal.
GK I am aware of the future plans of my organization.

Research Objective Four: Test Adequacy of Behavioral Statements

Completed questionnaires were collected over a three-week period. Questionnaires from Organization A and Organization B were mailed to the authors from LAAFB. AFIT students and IPD attendees returned the completed questionnaires individually to the authors at Wright-Patterson Air Force Base.

When all completed questionnaires were collected, respondent input was scanned from the computer sheets into a SAS data file. Respondent comments were set aside for inclusion in Appendix D.

Sample Size. Completed questionnaires were received from 129 personnel in Organization A at LAAFB, and from 59 personnel in Organization B. In addition, 28 attendees of the Integrated Product Development seminar and 62 of the new Air Force Institute of Technology students completed the questionnaire.

The number of returned questionnaires (278 total) did not meet planned expectations of the authors. However, the sample size is sufficiently large enough to provide analytical results for information purposes to Organization A and Organization B.

Demographics. For informational purposes, vertical bar charts of the demographic data for all 278 questionnaire respondents is shown in Tables 10 through 14 below.

Table 10

TOTAL ASSIGNMENT LENGTH

Months		Freq	Cum. Freq	Percent	Cum. Percent
< 6	*****************	31	31	11.15	11.15
7-12	********************************	59	90	21.22	32.37
13-18	*****************	32	122	11.51	43.88
19-23	***************	29	151	10.43	54.32
24-47	*******************************	58	209	20.86	75.18
> 48	**********************************	69	278	24.82	100.00

```
     ----+----+----+----+----+----+----+
        10   20   30   40   50   60   70
                    Frequency
```
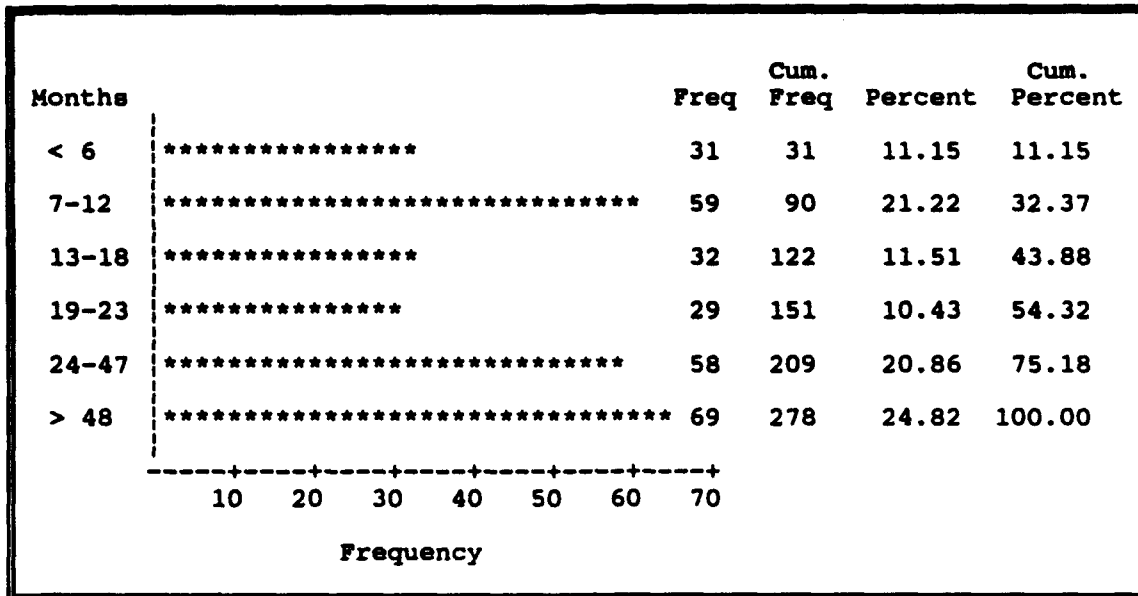
The number of questionnaire respondents appears to be equally balanced between less than two years time in assignment (54 percent) with more than two years time in assignment (46 percent). See Table 10 above.

Table 11

TOTAL AFFILIATION

Response		Freq	Cum. Freq	Percent	Cum. Percent
AF Mil	********************************	142	142	51.08	51.08
AF Civ	*****************	78	220	28.06	79.14
Contr	**********	52	272	18.71	97.84
Other	*	6	278	2.16	100.00

```
     ----+---+---+---+---+---+---+
        20  40  60  80 100 120 140
                  Frequency
```
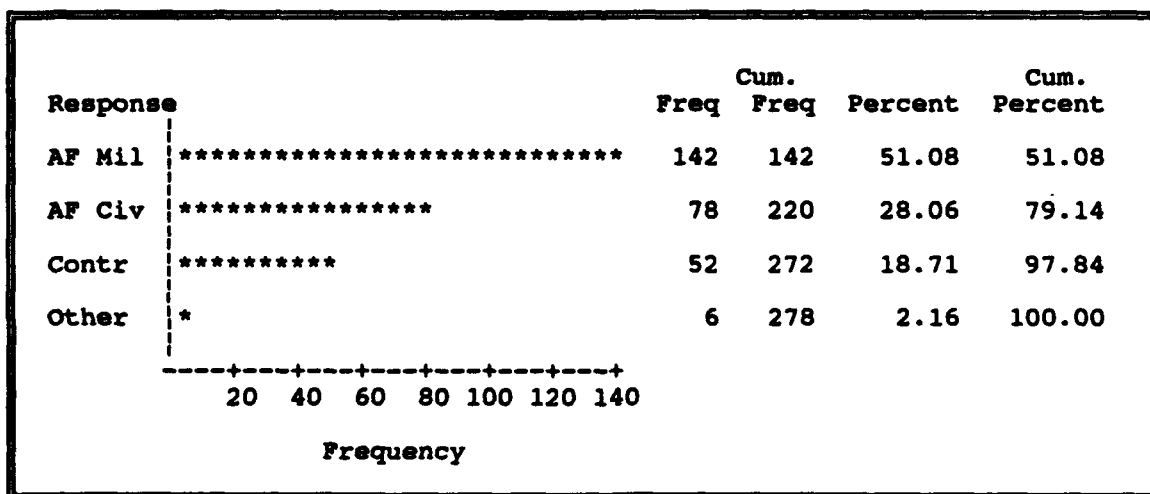
The purpose of this thesis was to provide analysis of empowerment of Air Force personnel. This intent is supported by information contained in Table 11--just over 79 percent of questionnaire respondents were Air Force military or civilian personnel, with Air Force-related contractors making up another 19 percent of respondents.

About 77 percent of questionnaire respondents are assigned as SPO team members or within a four-letter organization. In most SPOr these two types of assignments perform similar types of work. This is shown below in Table 12.

Table 12

TOTAL ORGANIZATIONAL LEVEL

Response		Freq	Cum. Freq	Percent	Cum. Percent
Team	**************************	129	129	46.40	46.40
4-Ltr	*****************	84	213	30.22	76.62
3-Ltr	**********	51	264	18.35	94.96
2-Ltr	***	14	278	5.04	100.00

```
----+---+---+---+---+---+--
    20  40  60  80 100 120
           Frequency
```
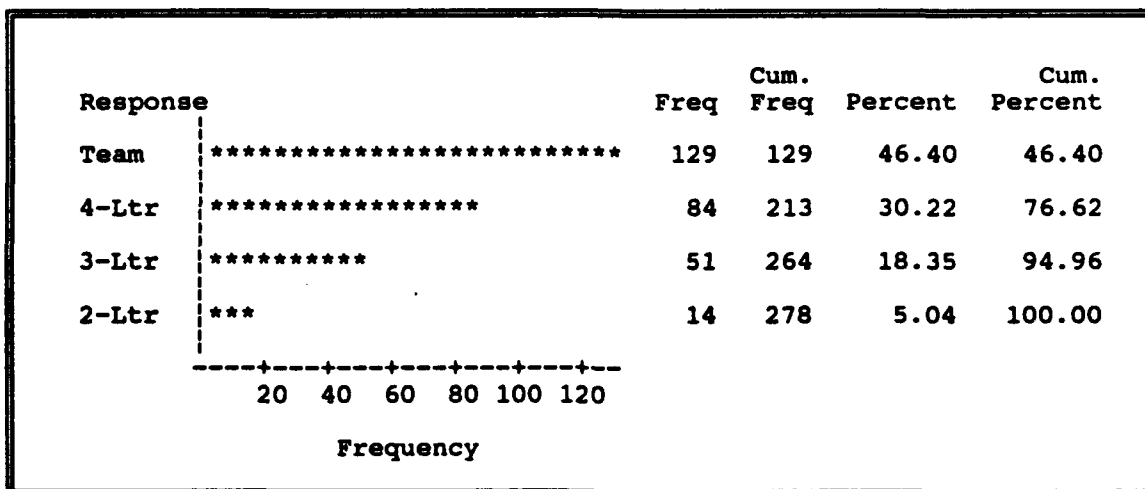
About 68 percent of respondents were personnel in non-supervisory positions. This is a good representation of a system program office. See Table 13 on the following page.

Table 13

TOTAL SUPERVISOR

Response		Freq	Cum. Freq	Percent	Cum. Percent
Yes	******************	89	89	32.01	32.01
No	**************************************	189	278	67.99	100.00

```
    ----+---+---+---+---+---+---+---+---+--
        20  40  60  80 100 120 140 160 180
                    Frequency
```

The number of supervisors, middle management, and staff personnel is similarly distributed, while the number of executive managers and others is small in comparison. This type of distribution was expected, along with a large portion of operational personnel (38 percent). See Table 14 below.

Table 14

TOTAL LEVEL OF MANAGEMENT

Response		Freq	Cum. Freq	Percent	Cum. Percent
Ops	**********************************	105	105	37.77	37.77
Super	*****************	40	145	14.39	52.16
M Mgt	************************	57	202	20.50	72.66
E Mgt	****	11	213	3.96	76.62
Staff	**********************	55	268	19.78	96.40
Other	****	10	278	3.60	100.00

```
    ----+---+---+---+---+---+---+---+---+--
        10  20  30  40  50  60  70  80  90
                    Frequency
```

It was also the authors' intention to provide detailed results of the statistical analysis for both Organization A personnel and Organization B personnel. As provided above for all 278 questionnaire respondents, demographic data from the Organization A is shown below. See Tables 15 through 19.

Organization A. A distribution of personnel based on assignment length is shown below in Table 15. The number of personnel with less than two years in current assignment is slightly higher than the average for all personnel questioned--64 percent versus 54 percent as described previously.

Table 15

ORGANIZATION A ASSIGNMENT LENGTH

Months		Freq	Cum. Freq	Percent	Cum. Percent
< 6	******************	18	18	13.95	13.95
7-12	**************************************	38	56	29.46	43.41
13-18	****************	16	72	12.40	55.81
19-23	***********	11	83	8.53	64.34
24-47	*************	13	96	10.08	74.42
> 48	*********************************	33	129	25.58	100.00

```
----+----+----+----+----+----+----+---
    5   10   15   20   25   30   35
              Frequency
```

The number of Air Force-related contractor personnel is higher for Organization A than for the total of questionnaire respondents (27 percent versus 19 percent). The number of Air Force military is also less compared to the total number of respondents (45 percent versus 51 percent). See Table 16 on the following page.

Table 16

ORGANIZATION A AFFILIATION

```
                                              Cum.              Cum.
  Response                        Freq  Freq   Percent  Percent
AF Mil  |******************************  58    58   44.96    44.96
        |
AF Civ  |*******************             36    94   27.91    72.87
        |
Contr   |*****************               35   129   27.13   100.00
        |
Other   |                                 0   129    0.00   100.00
        |
        ----+----+----+----+----+----
            10   20   30   40   50
                 Frequency
```
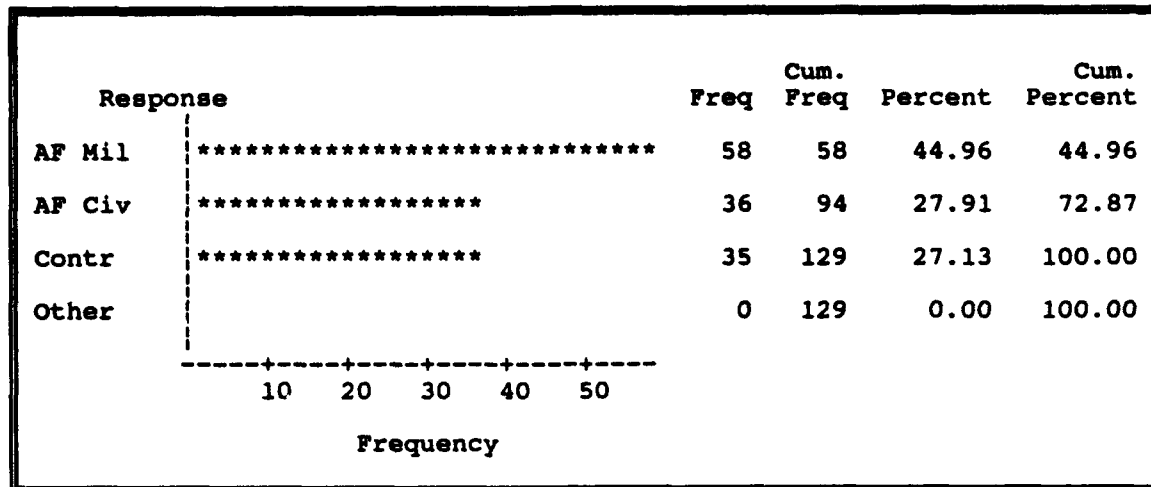
The percentage of three-letter personnel in Organization A is lower than the corresponding percentage among all questionnaire respondents (10 percent in Organization A versus 18 percent within all respondents). There is a corresponding increase in the number of team members and four-letter personnel (87 percent versus 77 percent). See Table 17 below.

Table 17

ORGANIZATION A ORGANIZATIONAL LEVEL

```
                                              Cum.              Cum.
  Response                        Freq  Freq   Percent  Percent
Team  |**********************************  70    70   54.26    54.26
      |
4-Ltr |********************                42   112   32.56    86.82
      |
3-Ltr |*******                            13   125   10.08    96.90
      |
2-Ltr |**                                  4   129    3.10   100.00
      |
      ----+----+----+----+----+----+----+
          10   20   30   40   50   60   70
               Frequency
```
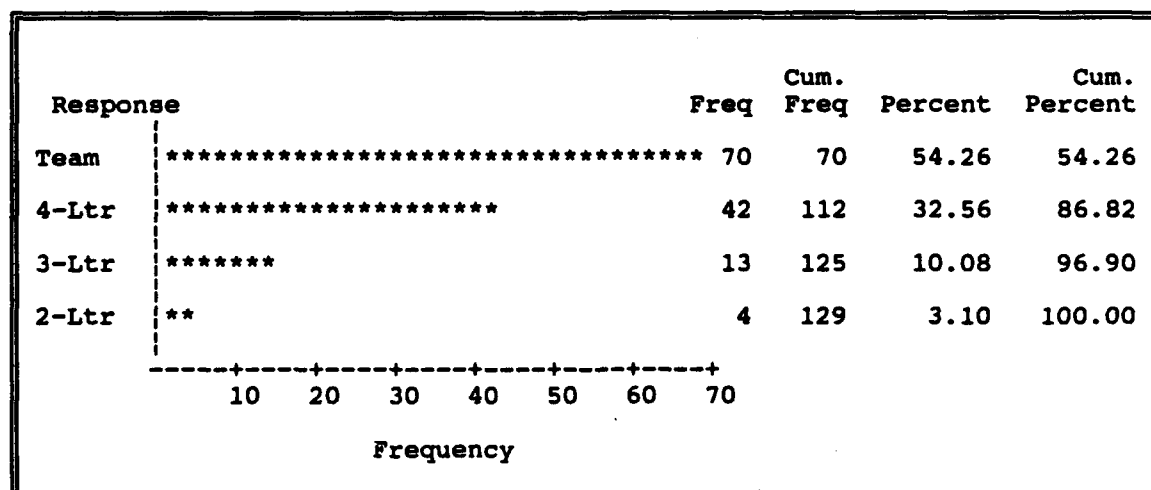
As expected, based on the larger percentage of team members and four-letter personnel, the number of non-supervisors within Organization A is higher than the number of non-supervisors among all questionnaire respondents (78 percent versus 68 percent). See Table 18 above.

Table 18

ORGANIZATION A SUPERVISOR

Response		Freq	Cum. Freq	Percent	Cum. Percent
Yes	***********	28	28	21.71	21.71
No	************************************	101	129	78.29	100.00

```
    ----+---+---+---+---+---+---+---+---+-
      10  20  30  40  50  60  70  80  90
                 Frequency
```

Also as expected, the percentage of middle management personnel and executive management personnel in Organization A is lower than for all questionnaire respondents. Middle management is 12 percent versus 21 percent for all respondents, and executive management is less than two percent versus four percent overall). See Table 19 on the following page.

Table 19

ORGANIZATION A LEVEL OF MANAGEMENT

Response		Freq	Cum. Freq	Percent	Cum. Percent
Ops	******************************	56	56	43.41	43.41
Super	**********	19	75	14.73	58.14
Mid Mgmt	********	16	91	12.40	70.54
Exec Mgt	*	2	93	1.55	72.09
Staff	***************	30	123	23.26	95.35
Other	***	6	129	4.65	100.00

```
----+----+----+----+----+---
   10   20   30   40   50
            Frequency
```

Organization B. Demographic data for Organization B is shown below in Tables 20 through 24. The percentage of personnel with less than two years time in assignment is similar for Organization B to all questionnaire respondents--both with 54 percent. However, Organization B has a much higher percentage of personnel closer to two years time in assignment (10 percent versus 22 percent) and a much less percentage of personnel with less than six months time in assignment (three percent versus 11 percent). See Table 20 on the following page.

Table 20

ORGANIZATION B ASSIGNMENT LENGTH

Months		Freq	Cum. Freq	Percent	Cum. Percent
< 6	****	2	2	3.39	3.39
7-12	*********************	11	13	18.64	22.03
13-18	***********	6	19	10.17	32.20
19-23	*************************	13	32	22.03	54.24
24-47	***************************	14	46	23.73	77.97
> 48	*************************	13	59	22.03	100.00

```
    ----+---+---+---+---+---+---+
        2   4   6   8   10  12  14
              Frequency
```
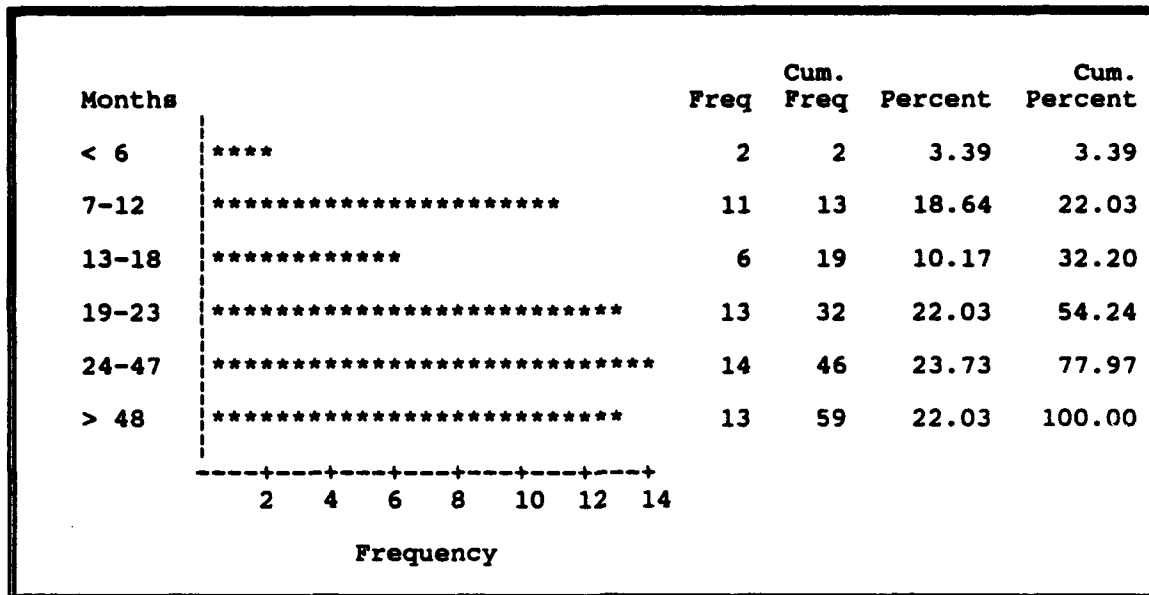
Table 21

ORGANIZATION B AFFILIATION

Response		Freq	Cum. Freq	Percent	Cum. Percent
AF Mil	**************************	26	26	44.07	44.07
AF Civ	****************	16	42	27.12	71.19
Contr	*****************	17	59	28.81	100.00
Other		0	59	0.00	100.00

```
    ----+----+----+----+----+-
        5    10   15   20   25
              Frequency
```
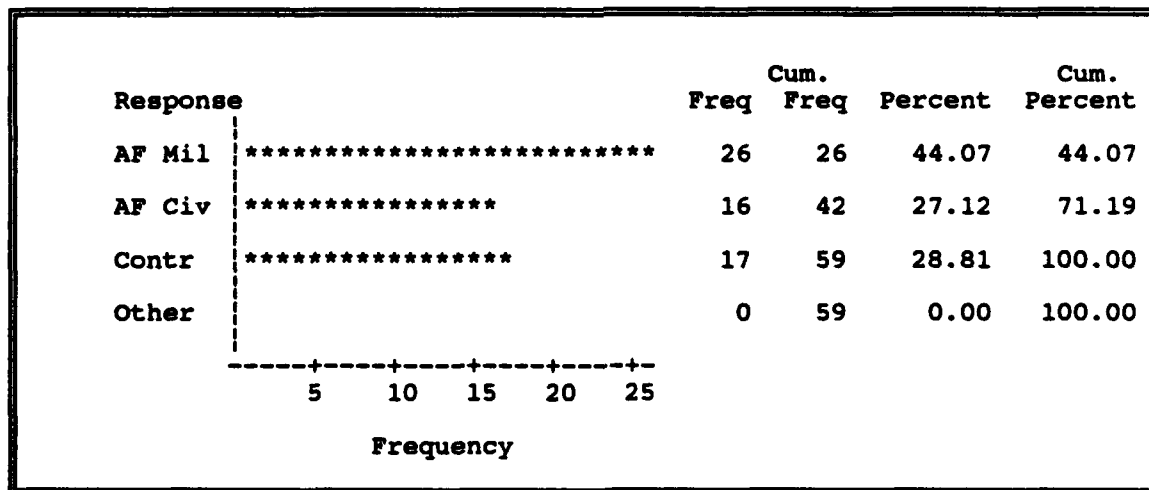
As with Organization A, Organization B has a higher percentage of Air Force-related contractor personnel (29 percent for Organization A versus 19 percent overall). Organization B also has a corresponding

decrease in the percentage of Air Force military personnel (44 percent versus 51 percent overall). See Table 21 above.

Table 22

ORGANIZATION B ORGANIZATIONAL LEVEL

Response		Freq	Cum. Freq	Percent	Cum. Percent
Team	*********************************	32	32	54.24	54.24
4-Ltr	****************	16	48	27.12	81.36
3-Ltr	*******	7	55	11.86	93.22
2-Ltr	****	4	59	6.78	100.00

```
        ----+----+----+----+----+----+--
            5   10   15   20   25   30
                   Frequency
```

Organization B's distribution of personnel based on organizational level is very similar to that of Organization A. As with Organization A, Organization B has a lower percentage of three-letter personnel than the corresponding percentage among all questionnaire respondents (12 percent in Organization A versus 18 percent within all respondents). There is also a corresponding increase in the number of team members and four-letter personnel (81 percent versus 77 percent). See Table 22 above.

The percentage of non-supervisory personnel within Organization B is similar to the percentage among all questionnaire respondents (67 percent versus 64 percent). See Table 23 on the following page.

Table 23

ORGANIZATION B SUPERVISOR

Response		Freq	Cum. Freq	Percent	Cum. Percent
Yes	|**********************	21	21	35.59	35.59
No	|**************************************	38	59	64.41	100.00

```
     -----+----+----+----+----+----+----+---
         5    10   15   20   25   30   35
                    Frequency
```

Organization B has a higher percentage of operational and supervisory personnel than all questionnaire respondents taken as a whole (52 percent versus 69 percent). To offset this higher percentage, Organization B has a corresponding decrease in the percentage of middle management and staff personnel (24 percent versus 41 percent). See Table 24 below.

Table 24

ORGANIZATION B LEVEL OF MANAGEMENT

Response		Freq	Cum. Freq	Percent	Cum. Percent
Ops	|***************************	27	27	45.76	45.76
Super	|**************	14	41	23.73	69.49
Mid Mgt	|******	6	47	10.17	79.66
Exec Mgt	|***	3	50	5.08	84.75
Staff	|********	8	58	13.56	98.31
Other	|*	1	59	1.69	100.00

```
     -----+----+----+----+----+--
         5    10   15   20   25
                 Frequency
```

Cronbach's Alpha. The data were subjected to a preliminary statistical analysis using Cronbach's alpha. As shown in Appendix B, there were no individual behavioral statements with substantially higher alpha coefficients than the group alpha coefficient for each dimension of empowerment. As a result, no behavioral statements were dropped from the analysis. This unusual result may be an indication that each behavioral statement contributed equally well to its corresponding dimension of empowerment.

Factor Analysis. Results from the statistical factor analysis are discussed below:

Selection of Variables (Behavioral Statements). Since no behavioral statements were dropped from the analysis as a result of Cronbach alpha analysis, all 115 statements were used in statistical factor analysis. Appendix C shows a partial listing of the results. The entire output from the analysis is not shown due to its extreme length.

The authors choose to extract seven factors from the data. As suspected, the statements contained in each factor did not correspond to the original seven dimensions of empowerment described in Chapter III. However, the groupings are very well defined. See Tables 25 through 32 on the following pages. Each table contains the behavioral statements associated with each extracted factor along with their corresponding factor loadings. Larger numbers indicate a stronger relationship between that behavioral statement and its corresponding factor. Table 32 lists the behavioral statements that did not correspond to any of the seven extracted factors.

Table 25

FACTOR 1

Loading		Behavioral Statement
FA	0.74	My supervisor is concerned about me as a person.
EA	0.74	I have a genuine respect for my supervisor.
EG	0.70	My supervisor treats workers in my organization with respect.
DC	0.69	My supervisor provides me with honest performance feedback.
DA	0.69	My supervisor lets me know the results of my suggestions.
CD	0.68	My supervisor supports decisions I make.
FK	0.67	My supervisor appreciates my ambition.
GG	0.67	My supervisor encourages initiative on the job.
GF	0.65	My supervisor encourages me to ask questions.
FB	0.65	My supervisor compliments our work section when we attain our goals.
FD	0.65	My supervisor defends me when necessary.
DG	0.62	My supervisor frequently lets me know how I am performing on the job.
CB	0.62	My supervisor consults workers before making worker-related decisions.
DD	0.62	I receive timely feedback on my job performance.
FM	0.61	My supervisor encourages me to develop my skills.
EM	0.61	My supervisor keeps me focused on the goals of the office.
CS	0.59	My supervisor informs me when my responsibilities change.
EL	0.58	I can ask my supervisor questions about my job.
EO	0.58	My supervisor encourages me to discuss new ideas with my co-workers.
BN	0.56	My supervisor gives me the information I need to do my job.
BI	0.56	I know what my supervisor expects from me.
CO	0.55	My supervisor trusts my judgement.
FC	0.48	My supervisor is concerned about problems in our work section.
GB	0.45	If my supervisor transferred, I would prefer to transfer also.
CM	0.43	My supervisor gives me advance notice on deadlines.
CP	0.43	My supervisor gives me increasing responsibilities.
FE	0.41	My supervisor helps me find ways around regulations that impede performance.

Table 26

FACTOR 2

Loading		Behavioral Statement
FI	0.62	Awards are given in a timely manner in my work section.
FJ	0.57	My work section uses customer input to establish performance measures.
FH	0.57	Recognition is given in a timely manner in my work section.
BM	0.57	I understand performance measures in my work section.
AG	0.56	My work section maintains written policies and procedures.
EC	0.53	My organization feels like a large family.
FL	0.51	Promotions within my organization are fair.
GJ	0.51	My organization is progressing toward a predetermined goal.
BH	0.51	I have well-defined job requirements.
DF	0.50	I have a feeling of accomplishment from my job.
AM	0.48	I know my work section's goals.
FN	0.47	Training is an on-going process in my work section.
FF	0.46	Group recognition is important in my organization.
AJ	0.46	We use formal procedures to meet goals in our organization.
GE	0.46	There is opportunity for advancement within my organization.
GD	0.46	Training is a priority in my organization.
EI	0.44	Teamwork is important within my work section.
BG	0.43	I have flexibility to match job requirements with my skills.
BJ	0.43	Relevant information is available to everyone in my work section.
DE2	0.42	My work often goes unnoticed.
FG	0.41	Individual recognition is important in my organization.
BL	0.35	I have access to the materials I need to perform my job.
AE2	0.32	There are unnecessary levels of management in my organization.

Table 27

FACTOR 3

Loading		Behavioral Statement
BA	0.73	My job is challenging.
FT	0.61	I maintain high standards of job performance when my supervisor is not present.
FO	0.60	I have personal goals for my job.
GA	0.60	I care about the future of my organization.
BB	0.59	Job requirements allow me to use my abilities.
FS	0.58	I try to find better ways of performing my job.
DB	0.57	My work is important to meeting organizational goals.
BE2	0.55	I don't have enough work to do.
DI	0.55	I am excited about my job.
FU	0.53	I am willing to improve my skills and abilities to perform my job better.
AC	0.54	Organizational goals affect my job.
AD	0.52	Organizational goals affect me.
CT	0.51	I feel personally responsible for duties assigned to me.
ED	0.49	I feel like the organization's problems are my own.
FQ	0.49	I willingly work long hours when necessary.
DH	0.46	I sometimes forget when it's time to go home.
AP	0.45	I understand the purpose of my organization.
FP	0.44	While at home, I think about what I am going to do at work the next day.
DJ	0.43	I feel responsible for products that come out of my work section.
BC	0.42	My skills match job requirements.
CF	0.42	I have authority to make routine decisions.

Table 28

FACTOR 4

Loading		Behavioral Statement
AH	0.65	I know how to handle routine procedures within my work section.
AL	0.59	I know how to get my job done.
AN	0.57	I meet my work section's goals.
CU	0.51	I understand my responsibilities.
AB	0.48	I understand the informal rules of my organization.
FR	0.45	I feel satisfied with my work performance.
AI	0.45	I know how to handle non-routine procedures in my work section.
AA	0.43	I understand the formal rules of my organization.

Table 29

FACTOR 5

Loading	Behavioral Statement
CK2 0.60	My supervisor insists I perform my job his/her way.
CH2 0.57	Other employees overrule my decision.
CG2 0.46	My supervisor holds me accountable for decisions I make.
CA2 0.45	I find myself withholding information from my supervisor to make my job easier.
CQ2 0.45	I find myself being defensive on the job.
GI 0.44	My supervisor trusts me to get my work done.
CN2 0.30	Regulations constrain my work section's goals.
CW -0.35	My supervisor sets my goals for me.

Table 30

Factor 6

Loading	Behavioral Statement
EF 0.57	I enjoy working with people in my section.
EE 0.49	My co-workers and I share a common commitment to quality products and services.
BK 0.47	I can ask for information from others in the organization.
EH 0.45	I learn from my co-workers.
DM 0.40	Co-workers appreciate my work.
EB 0.39	I have a genuine respect for my co-workers.
EN2 0.36	Co-workers reject me when I make mistakes.
EJ 0.30	I enjoy socializing with my co-workers.

Table 31

FACTOR 7

Loading	Behavioral Statement
CJ 0.45	I need permission to deviate from assigned duties.
CE 0.41	I have authority to develop work processes to meet work section goals.
AK 0.39	We use informal procedures to meet goals in our organization.
CX 0.35	I set my own work-related goals.

Table 32

STATEMENTS DROPPED BY FACTOR ANALYSIS

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EP  I have pertinent information withheld from me.
BF  My supervisor delegates tasks to me regularly.
DK  I freely make suggestions about policies in my work section.
EK  I willingly help my co-workers with their work.
CR  I understand the responsibilities of my co-workers.
CI  My supervisor overrules my decisions.
CL  I participate in decision-making processes within my work
    section.
BD  Finishing assigned work on time is a challenge for me.
DL  I can make suggestions about procedures in my work sections.
GC  I have control over my job regardless of leadership changes in
    my organization.
AO  I understand the goals of my organization.
CV  I decide how to fulfill my job responsibilities.
GK  I am aware of the future plans of my organization.
AF  I know the chain-of-command in my organization.
CC  I am proud to work in my organization.
GH  My work section structure allows me to carry on my job without
    supervision.
```

Extraction of Factors. SAS also automatically extracted the
unrotated factors using the principal factor method, rotated the factors
using the Kaiser Varimax method, and listed the rotated factors. The
Scree Test was used to determine the proper amount of factors to extract
from the data. The "Scree Plot of Eigenvalues" in Appendix C shows
minor factors begin to trail off after six major factors.

As seen in Tables 24 through 30 above, Factors 1 through 6 have
statements grouped according to distinct topics. Factor 7, alone,
contains miscellaneous statements that do not appear to be related.
Interpretation of these factors will be discussed in Research Objectives
five and six of this chapter.

Communality Estimates. Final communality estimates are shown at
the end of Appendix C. As stated in Chapter III, these values indicate
the amount of overlap between the behavioral statements and the factors
they measure. For each extracted factor, the communality values were
higher for the behavioral statements with higher factor loadings, and
lower for behavioral statements with lower factor loadings.

Research Objective Five: Develop Operational Empowerment Instrument

   As shown in the Scree Plot in Appendix C and discussed above in
Research Objective Four, six major factors were extracted from the data.
Each factor was identified and labeled based on its associated grouping
of behavioral statements. The factors were:

                    Factor 1 - Management Commitment
                    Factor 2 - Continuity
                    Factor 3 - Worker Commitment
                    Factor 4 - Cognizance
                    Factor 5 - Control
                    Factor 6 - Community

   Two main criterion were established for determining which
behavioral statements from each extracted factor were selected for the
final empowerment questionnaire. First, behavioral statements with at
least a fair factor loading rating (.45 or higher) were considered, but
not necessarily included. Second, a representative and balanced sample
of behavioral statements were selected for each measurement parameter
within ea.h factor.

   Factor 1: Management Commitment. Fifteen behavioral statements
associated with Factor 1 (see Table 25) were included in the final
questionnaire. The behavioral statements associated with this factor
relate to the theorized empowerment dimension of commitment. This
dimension was divided into two measurement parameters, management
involvement and worker involvement. The behavior statements did not
reflect any of the worker commitment behavioral statements. Instead,
the behavioral statements emphasized four measurement parameters:
1) management involvement, 2) growth, 3) contribution, and 4)
information access. This factor was designated as management commitment
because it includes four considerations management should pursue in
encouraging empowerment.

   The management involvement parameter, as predicted, was aligned
under the dimension of commitment. Involvement referred to the degree a
supervisor would create an environment of self-effectiveness. In
general, this parameter addressed the sources of self-efficacy

information as expressed by Bandura (1977). These sources can be translated into providing constructive feedback, words or encouragement, and a leadership model to emulate.

The following statements were aligned under the parameter of management involvement:

1. My supervisor provides me with honest performance feedback.
2. My supervisor lets me know the results of my suggestions.
3. My supervisor supports decisions I make.
4. My supervisor compliments our work section when we attain our goals.

The growth parameter was originally aligned under the dimension of continuity. Growth referred to management's encouragement of initiative and personal growth. This parameter could have equally been categorized within either commitment or continuity.

The following statements were aligned under the growth parameter:

1. My supervisor appreciates my ambition.
2. My supervisor encourages initiative on the job.
3. My supervisor encourages me to ask questions.

The contribution parameter and dimension was captured in the dimension of management commitment. It referred to a person's sense of significance in the organization.

The following statements were aligned under the contribution parameter:

1. My supervisor is concerned about me as a person.
2. I have a genuine respect for my supervisor.
3. My supervisor treats workers in my organization with respect.
4. My supervisor defends my when necessary.

The information access parameter was theorized to be aligned under the dimension of competence. This parameter referred Information to a person's access to information and supplies to their job.

The following statements were aligned under the information access parameter:

1. My supervisor keeps me focused on the goals of the office.
2. My supervisor informs me when my responsibilities change.
3. I can ask my supervisor questions about my job.
4. My supervisor gives me the information I need to do my job.

Factor 2: Continuity. Twelve behavioral statements associated with Factor 2 (see Table 26) were included in the final questionnaire. The behavioral statements highlighted three measurement parameters: 1) recognition, 2) social development, and 3) goals.

The recognition parameter, as expected, was aligned under the dimension of continuity. It refers to providing continuity by through of recognition, by means of awards, promotion, or other forms of recognitions. The questions aligned under this parameter were:

1. Awards are given in a timely manner in my work section.
2. Recognition is given in a timely manner in my work section.
3. Promotions within my organization are fair.
4. I have a feeling of accomplishment from my job.

The social development parameter was originally aligned under the dimension of competence. Social development referred the degree a supervisor or the organization encouraged a person to use their skills effectively. The questions aligned under this parameter were:

1. My work section uses customer input to establish performance measures.
2. I understand performance measures in my work section.
3. I have well-defined job requirements.
4. Training is an on-going process in my organization.

The goals parameter was originally aligned under the dimension of cognizance. It referred to a person's a person's knowledge of the organizational goals and mission. The questions aligned under this parameter were:

1. My work section maintains written policies and procedures.
2. My organization feels like a large family.
3. I know my work section's goals.
4. My organization is progressing toward a predetermined goal.

Factor 3: Worker Commitment. Eight behavioral statements associated with Factor 3 (see Table 27) were included in the final questionnaire. The behavioral statements associated with this factor relate to the theorized empowerment dimension of commitment. This factor is a function of two measurement parameters: 1) worker involvement, and 2) job/skill alignment.

Worker involvement, as theorized, was aligned under the dimension of commitment. This parameter addressed the conditions the individual initiates to enhance their sense of self-efficacy. This may include setting goals, caring about the future of their organization, and finding better ways of performing the job. The questions aligned under this parameter were:

1. I maintain high standards of job performance when my supervisor is not present.
2. I have personal goals for my jobs.
3. I care about the future of my organization.
4. I try to find better ways of performing my job better.

The job/skill alignment parameter was originally arranged under the dimension of competence. This dimension dealt with the issue matching job to skills to optimize an individual's potential in the workplace. The questions aligned under this parameter were:

1. My job is challenging.
2. Job requirements allow me to use my abilities.
3. I don't have enough work to do.
4. I am excited about my job.

Factor 4: Cognizance. Four behavioral statements associated with Factor 4 (see Table 28) describe a worker's ability to handle routine procedures, get the job done, meet work section goals, and understand their place in the organization. Taken together, these statements attempt to measure a worker's level of cognizance within his/her assigned job. All four behavior statements were aligned with the theorized parameter of organizational awareness. The questions aligned under this parameter were:

1. I know how to handle routine procedures within my work section.
2. I know how to get my job done.
3. I understand my responsibilities.
4. I understand the formal rules of my organization.

Factor 5: Control. Six statements correlated to Factor 5 (see Table 29) describe negative aspects of control. The measurement parameters of authority and responsibility clearly were aligned with this dimension, as predicted. In essence, this measures the degree of ownership an individual has over their job. When a supervisor insists a

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worker perform a job his/her way, when a worker's decisions are frequently overruled, or when a worker feels he/she must withhold information from the supervisor, there is a strong indication the worker has no or little control over his/her job.

The questions aligned under the authority parameter were:

1. My supervisor insists I perform my job his/her way.
2. Other employees overrule my decisions.
3. My supervisor holds my accountable for decisions I make.

The questions aligned under the responsibility parameter were:

1. I find myself withholding information from my supervisor to make my job easier.
2. I find myself being defensive on the job.
3. My supervisor trusts me to get my job done.

Factor 6: Community. Six behavioral statements in Factor 6 (see Table 30) show the level of interaction workers have with one another, and the commonality of values. Two measurement parameters, interaction and commonality, were theorized under the dimension of community.

The questions aligned under the interaction parameter were:

1. I enjoy working with people in my section.
2. I can ask for information from others in the organization.
3. I learn from my co-workers.

The questions aligned under the commonality parameter were:

1. My co-workers and I share a common commitment to quality products and services.
2. Co-workers appreciate my work.
3. I have a genuine respect for my co-workers.

Factors Not Extracted. As previously discussed in Research Objective Two, contribution and competence were part of the seven dimensions of empowerment (Stone, 1993). These dimensions were not extracted as separate empowerment factors. The factor analysis showed the theorized dimension of contribution aligned within the factor of management commitment. Competence was captured within the dimensions management commitment (information access parameter), continuity (social development parameter), and worker commitment (job/skill alignment).

Research Objective 6:   Develop Recommended Instrument Feedback Format

The format of the feedback sheet was divided into three sections:
the questionnaire, the score sheet by dimension, and a listing of
strategies as related to each of the six dimensions of empowerment. This
format was designed for educational purposes. See Appendix E for
feedback format.

The feedback format varied slightly for organizational analysis,
where Organizations A and B were the basis for analysis. This will be
addressed in Chapter V in the context of strategy recommendations.

V. Conclusions and Recommendations

Literature Review Conclusions

In a time of limited resources, the Air Force recognizes people are its most valuable asset. Empowerment is the key to unlocking an organization's untapped potential. Failing to create an empowered organization is simply choosing to waste resources.

Empowerment is a combination of sharing power and strengthening the power within every individual. Warren Bennis captures the essence with his definition of empowerment as, "the collective effect of leadership" (Bennis, 1989:38). Even though managers apply techniques or management practices, such as delegation or sharing decision making, the substance resides in the "collective effect" of action. This effect is influenced by how the person feels about their own sense of effectiveness. Simply moving authority and responsibility down the chain of command will not create empowerment in an organization.

Leaders must adopt empowerment as a long-term commitment to the process. The process begins with the recognition and elimination of sources of powerlessness. Management can then use managerial strategies as a means of enhancing people's sense of effectiveness.

Methodology and Data Conclusions

The authors attempted to verify Stone's seven dimensions of empowerment by statistically analyzing data received from a variety of Air Force personnel. This analysis showed the seven dimensions did indeed exist within the Air Force, but in a different format than hypothesized.

In particular, Stone (1993) stated empowerment may consist of seven dimensions: cognizance, competence, control, contribution, community, commitment, and continuity. However, results of statistical analysis, based on a pilot empowerment questionnaire, indicated that empowerment is actually grouped according to six factors: management

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commitment, continuity, worker commitment, cognizance, control, and community.

The following table summarizes the resulting dimensions and measurement parameters:

Table 33

SUMMARY OF EMPOWERMENT DIMENSIONS AND PARAMETERS

EMPOWERMENT DIMENSION	MEASUREMENT PARAMETERS
MANAGEMENT COMMITMENT	Management Involvement, Growth, Contribution, Information Access
CONTINUITY	Recognition, Social Development, Goals
WORKER COMMITMENT	Worker Involvement, Job/skill Alignment
COGNIZANCE	Organizational Awareness
CONTROL	Authority, Responsibility
COMMUNITY	Interaction, Commonality

Recommended Empowerment Strategies

This study provided management with a valuable tool for measuring empowerment. It identified six dimensions that together describe empowerment. The next step involves acting on the results of the measurement. The following strategies are not meant to be an all-inclusive list. These strategies are intended to give an organization a starting point to building an environment where empowerment can flourish.

Before the strategies are detailed, it is important to understand the context in which these strategies were developed. Literature differs on empowerment strategies as often as it differs on the definition of the term empowerment. Additionally, strategy will vary depending on whether a distinction is made between empowerment as a value, program, or process. The importance of this distinction is in

implications of how, or even if, empowerment will be incorporated into an organization.

A value is subjective and internal to the individual or the organization (Covey, 1991:94). Author Stephen Covey, in his book Principled-Centered Leadership, compares values to a map, and principles to territories, where maps are "subjective attempts" to resemble the territory (Covey, 1991:96). If the maps closely describe the territories, then it will be useful and accurate. He further implies empowerment has a temporary nature if not centered on principles. Some of these principles or universal laws are honesty, quality, patience, and integrity (96). If empowerment is aligned with these principles, it will be incorporated as an integral part of the organization's culture. If this is not the situation, empowerment takes on the characteristics of a program. William C. Byham, the author of Zapp!: The Lightening of Empowerment, contends empowerment is a value, not a program (Byham, 1991:10).

Empowerment as a program suggests a short-term perspective on change, while as a value it implies a long-term perspective. A program can have little or no continuity. Both the literature and statistical analysis of the dimensions substantiate that a sense of continuity is critical to creating an empowered organization.

Empowerment as a process involves continuous evaluation of the organization. According to Conger and Kanungo (1988) the empowerment process is divided into five stages:

1. Remove sources of powerlessness.
2. Use of managerial strategies and techniques.
3. Provide self-efficacy information to subordinates.
4. Strengthen employee empowerment resulting from previous stages.
5. Institutionalize the empowerment process.

Sources of powerlessness were addressed in Chapter II, within the discussion of power. This chapter will provide an overview of the concept. Stages 2 and 3 will be addressed within the context of the six empowerment dimensions.

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People feel powerless when they perceive themselves as "lacking control over their immediate situation", lacking the capability, resources, or authority to do the job (Conger, 1989:21). These conditions make people feel inadequate and demotivated, resulting in ineffectiveness on the job.

Sources of powerlessness can be divided into four categories: organizational factors, supervisory style, reward systems, and job design (Conger and Kanungo, 1988:476). A detailed listing of each category was included in Chapter Two and the Feedback Format package (see Appendix E).

This thesis will not attempt to render an in-depth coverage of these sources of powerlessness, however their importance within organizational analysis cannot be overemphasized. For example, one of the sources of powerlessness listed under organizational factors was organizational restructure. Both Organizations A and B had undergone major reorganizations within the past two months. Not surprisingly, both organizations received relatively higher scores (lower is better) on the continuity dimension of empowerment, compared to the other dimensions. On the following page, Table 34 displays the average score per empowerment dimension for each organization. Scores were based on a scale of one to seven, where one signifies high perceive empowerment and seven low degree of empowerment. "N" represents the number of respondents per organization. The demographic characteristics were covered in Tables 15 through 24.

Conger and Kanungo (1988) describe why people may challenge their sense of control and competence as a result of a major change such as reorganization:

> As the organization seeks new guidelines for action, its goals and rules may no longer be clearly defined. Responsibilities and power may shift dramatically. Uncertainty may be experienced by a large part of the organization. (Conger and Kanungo, 1988:477)

Table 34

SUMMARY OF AVERAGE SCORES
PER EMPOWERMENT DIMENSION

FACTOR	ORG A (N=129)	ORG B (N=59)
Management Commitment	2.87	3.02
Continuity	3.45	3.84
Worker Commitment	2.34	2.60
Cognizance	2.29	2.32
Control	2.98	2.91
Community	2.32	2.44

Management Commitment Strategies. Management commitment is at the heart of empowerment in an organization. Empowerment "results from actions of supervisors, managers and support people that provide employees at every level with a sense of ownership and control over their jobs" (Byham, 1991:10).

Management commitment demands proactive involvement in the process of empowerment. As leadership can be defined as the "art of empowering others" it is imperative management at all levels to provide a leadership model to emulate (Conger, 1989:17). Management must treat people with respect by showing them they are significant to the organization.

Unlocking access to information and resources is an essential avenue to demonstrating management commitment. Daniel Hunt in his book, Quality in America, states that "only by giving people the freedom and resources to act can you expect them to go beyond the call of duty" (Hunt, 1992:54).

Supporting strategies include:

1. Educate supervisors about the meaning of empowerment and how to achieve it. This education should include how to understand and accept organizational vision, a discussion of values necessary to guide

decision-making, how to design jobs to provide ownership and responsibility, and how to effectively communicate plans (Byham, 1991).

2. **Encourage access to information at all levels.** In most organizations, senior managers decide who receives what kind of information. In an empowered organization, "people at every level make decisions about what kind of information they need for performing their jobs" (Dobbs, 1993:56).

3. **Provide constructive feedback on job performance on a regular basis.** One of the characteristics empowered people share is that "they replace fear with feedback, order-giving with decision making" (Shelton, 1991:8). Managers need to tell workers what they hope to accomplish--define, communicate, and follow-up (Frohman, 1992:85).

4. **Teach managers to be more like coaches.** Turning a manager into a coach "is not the same as turning them into equals". Coaching involves knowing what's going on, setting the direction, making decisions subordinates can not make, opening doors to clear the way, and assessing performance (Byham, 1992:97).

Continuity Strategies. The success of the empowerment process can be evaluated by the extent measures have been established to maintain its continuity. Providing organizational vision and goals at all levels is indispensable to the long-range success of the process. Vision and goals provide workers with a sense of purpose and allows them to integrate their personal goals with the organization's goals. Continuity is achieved when workers are encouraged to use their skills effectively and recognized for their achievements.

Supporting strategies include:

1. **Base rewards on organizational performance.** William Byham in his book, _Zapp! The Lightening of Empowerment_, explains the first step to empowerment is to build self-esteem. A strategy for this includes implementing reward and recognition systems that build pride and self-

esteem (Byham, 1991:90). Alignment of recognition methods and goals is important to avoiding mixed signals (Stone, 1993).

2. Provide plenty of education and training (Bernstein, 1991:5). Specific areas of training include skills required to solve problems and make decisions; and basic skills such as reading, writing, and arithmetic, if necessary (Verespej, 1991:14).

3. Make learning and competence a priority. Leadership can make learning and competence matter by ensuring "mistakes are not perceived as failures, but as part of the learning process" (Bennis, 1989:39).

4. Establish customer-driven performance measurements at the individual level (Endosomwan, 1992:14-15).

Worker Commitment Strategies. Worker commitment increases as workers are allowed to get involved in owning their jobs. Encouraging methods of self-leadership (Manz and Sims, 1990:27) and job/skill alignment can increase a worker's sense of commitment. This increase of personal power is what creates synergy within the organization (Covey, 1991:275).

Supporting strategies include:

1. Involve employees in developing strategies for continuous improvement (Endosomwan, 1992:14). Several companies have employee involvement initiatives aimed at increasing participation in decision-making to bring about empowerment (Early, 1991:13-14). Use of self-directed team initiatives, cross-functional problem-solving teams, and error removal suggestion programs, can be effective methods of getting people involved. The following are suggestions to improve the effectiveness of teams (Byham, 1992:152):

    a. Give the team a say in who works on the team.

    b. Establish a mission for the team.

    c. Provide time and places for the team to meet.

d. Provide technical training at the "teachable moment".

e. Provide "people" skills for interacting, solving problems, making decisions, and taking action.

2. Redesign jobs to align with skills and organizational needs (Covey, 1991:186).

3. Encourage workers to be more entrepreneurial, self-managing, and autonomous. Managers need to help subordinates develop confidence and master skills (Manz and Sims, 1990:54).

Cognizance Strategies. Knowledge lets people understand and contribute to organizational performance. Employee involvement in the organization needs to start with every employee's understanding of what their organization represents so they can contribute to its mission and help pursue its vision.

Supporting strategies include:

1. Define involvement and empowerment based on the mission of the organization, and establish organizational and individual goals (Endosomwan, 1992:14-15).

2. Ensure new employees are exposed to the "big picture". This would involve explaining routine organizational procedures, main processes within the organization, and the chain of command (Stone, 1993).

3. Ensure workers can identify the processes they own. To be empowered, every individual and team needs to know which processes they own. One method consists of identifying the product(s) of the process, and identifying the customer(s) of the product (Boyles, 1993:1).

Control Strategies. In order to move decision making to lower levels, workers need to have the power to make decisions that influence organizational direction and performance. Sometimes managers do not let subordinates make decisions because they simply do not trust them. Stephen Covey, the author of Principled-Centered Leadership, says the

"taproot of empowerment is trust". People are trusted if they are trustworthy and competent (Covey, 1991:171).

Lack of trust is often displayed by the lack of authority and responsibility employees are given or not granted. Townsend and Gebhart, in their book, Quality in Action, state that "authority equal to responsibility is empowerment with defined boundaries". In some cases, this authority may be embedded in the organizational structure or job description.

It should be clear that with authority and responsibility, there must be accountability. Accountability is the basis for measuring, communicating, planning and problem solving.

Supporting strategies include:

1. Restructure the organization, if necessary. Maccoby in his article, Creating an Empowered Organization, recognizes fear of responsibility and explains how it is tied to a specific type of organization: 1) empowered, 2) bureaucratic, 3) compliant, and 4) chaotic. In some cases, it may be necessary to redesign the overall work structure to remove stifling policies (Matthes, 1992:1-6).

2. Get people to take responsibility for their work. To instill a sense of responsibility a manager should:

     a. Offer help without taking away responsibility (Byham, 1992:89).

     b. Avoid duplicating responsibilities. Overlap of responsibilities takes away sense of ownership and pride (Tracy, 1992:24)

     c. Prioritize responsibilities and review changes with the person (25).

3. Give people authority to fulfill the responsibilities delegated to them. Ensure workers know what authority they possess for a given task or job. When workers do not have a clear understanding of

their authority limits, they feel like they are "walking on eggshells" (Tracy, 1991:35).

3. Establish means for making people accountable. Responsibility is the ability to choose one's response (Covey, 1991:49). People must be held accountable for their choices. If there is no accountability people "gradually lose their sense of responsibility and start blaming circumstances or other people for poor performance. Specific ways of establishing accountability include:

  a. Set expectations regarding desired output.

  b. Set expectations regarding desired checkpoints.

  c. Communicate standards and measurements.

  d. Ensure follow-up of employee work by listening and responding to recommendations (Frohman, 1992:64-66).

Community Strategies. In an empowered organization people feel part of a community (Stone, 1993). People feel like they are a "legitimate part of the organization" (Shelton, 1991:8). Two factors affect the sense of community in an organization: 1) the commonality of values between co-workers, customers and suppliers, and 2) the degree people believe they can ask for help and give help (Stone, 1993).

Supporting strategies include:

1. Provide workers with interactive and problem-solving skills to work with customers and teams (Byham, 1991:10).

2. Facilitate open communications at all levels (Endosomwan, 1992:14).

Recommendations for Further Research

The population surveyed consisted mainly of acquisition program personnel. Recommend the instrument be validated for different types of organizations, i.e., operational, training, etc. There may then be a need to change some of the behavioral statements, since they may not be applicable to all types of organizations.

Due to time constraints, the authors received no feedback on the

format developed to analyze the results of the operational empowerment instrument. A follow-up study should be conducted on its usefulness to Air Force organizations. Additionally, further research should be conducted to provide more detailed strategies and to tailor the empowerment instrument to a particular level of management.

Appendix A: Pilot Questionnaire

SUBJECT: Empowerment Questionnaire

TO: Respondent

The following questionnaire is part of thesis research conducted by Capts Karen Corrente and Lilly Lopez in partial fulfillment of the Air Force Institute of Technology (AFIT) graduate degree requirements.

EMPOWERMENT is one of the benefits a quality culture produces. However, most people struggle to define the term. The purpose of our research is to identify the dimensions of empowerment and develop an instrument to help measure empowerment in any Air Force organization. Ultimately, this instrument will be used as an educational tool, and to provide feedback to Air Force organizations showing their progress towards developing an empowered organization.

Instructions

The questionnaire consists of 120 questions. Estimated time to complete is 20 minutes. All items are answered by filling in the appropriate spaces on the machine-scored response sheet provided (AFIT Form 11E).

Please observe the following:

Use a No. 2 pencil.

Do not write your name anywhere on the survey, to ensure confidentiality,

Do not fold, bend, staple or otherwise mutilate the AFIT Form 11E.

Mark only one answer when responding to each question.

Completely fill in the numbered circle corresponding to your opinion on each statement.

Erase cleanly any responses you wish to change.

Please place the completed AFIT Form 11E and any comments in the self-addressed return envelope, and mail to us by 12 July 93.

Thanks for your participation.

KAREN M. CORRENTE, Capt, USAF
AFIT Graduate Student

LILLY LOPEZ, Capt, USAF
AFIT Graduate Student

VERSION 2

PLEASE ANSWER THE FOLLOWING ITEMS CONCERNING YOURSELF. THE INFORMATION
WILL BE USED TO DESCRIBE GROUPS, NOT INDIVIDUALS.

1   About how long have you been assigned to your program office?

     1.   Less than 6 months
     2.   7 - 12 months
     3.   13 - 18 months
     4.   19 - 23 months
     5.   2 - 3 years
     6.   4 years or more

2   Your affiliation:

     1.   Air Force (military)
     2.   Air Force (civilian)
     3.   Contracted support (i.e. Aerospace, TASC)
     4.   Other_____

3   Which category best describes your organizational level?

     1.   Team member
     2.   4-letter
     3.   3-letter
     4.   Senior Leadership

4   Are you a supervisor?

     1.   Yes
     2.   No

5   Which category best describes your level of management?

     1.   Operational (non-supervisory)
     2.   Supervisory
     3.   Middle-management
     4.   Executive management
     5.   Staff/Non-managerial
     6.   Other _____

THIS SECTION ASKS YOU TO DEFINE CERTAIN TYPES OF BEHAVIORS ACCORDING TO THE FOLLOWING SCALE:

SCALE

1	2	3	4	5	6	7
Strongly Agree	Agree	Somewhat Agree	Undecided	Somewhat Disagree	Disagree	Strongly Disagree

6 My supervisor defends me when necessary.
7 I care about the future of my organization.
8 I know how to get my job done.
9 I find myself withholding information from my supervisor to make my job easier.
10 I find myself being defensive on the job.
11 I have a feeling of accomplishment from my job.
12 My supervisor trusts my judgement.
13 I have flexibility to match job requirements with my skills.
14 There are unnecessary levels of management in my organization.
15 I have personal goals for my job.
16 My supervisor keeps me focused on the goals of the office.
17 My supervisor frequently lets me know how I am performing on the job.
18 I have pertinent information withheld from me.
19 I try to find better ways of performing my job.
20 I know how to handle non-routine procedures in my work section.
21 I can ask for information from others in the organization.
22 My work often goes unnoticed.
23 Regulations constrain my work section's goals.
24 My supervisor delegates tasks to me regularly.
25 Organizational goals affect me.
26 Training is an on-going process in my work section.
27 I can ask my supervisor questions about my job.
28 I freely make suggestions about policies in my work section.
29 My supervisor helps me find ways around regulations that impede performance.
30 If my supervisor transferred, I would prefer to transfer also.
31 I know my work section's goals.
32 I have authority to make routine decisions.
33 I feel personally responsible for duties assigned to me.
34 I receive timely feedback on my job performance.
35 My supervisor gives me advance notice on deadlines.
36 I don't have enough work to do.
37 Organizational goals affect my job.
38 My supervisor encourages me to develop my skills.
39 I willingly help my co-workers with their work.
40 I sometimes forget when it's time to go home.
41 My supervisor is concerned about me as a person.
42 I maintain high standards of job performance when my supervisor is not present.
43 We use formal procedures to meet goals in our organization.
44 I have access to the materials I need to perform my job.
45 My supervisor gives me increasing responsibilities.
46 My work is important to meeting organizational goals.
47 My skills match job requirements.
48 I feel responsible for products that come out of my work section.
49 I understand the formal rules of my organization.
50 Promotions within my organization are fair.
51 I enjoy socializing with my co-workers.
52 I am excited about my job.

SCALE

```
+--------+--------+--------+--------+--------+--------+--------+
|   1    |   2    |   3    |   4    |   5    |   6    |   7    |
+--------+--------+--------+--------+--------+--------+--------+
 Strongly  Agree  Somewhat Undecided Somewhat Disagree Strongly
 Agree             Agree            Disagree          Disagree
```

53 My supervisor compliments our work section when we attain our goals.
54 I am willing to improve my skills and abilities to perform my job better.
55 We use informal procedures to meet goals in our organization.
56 I understand performance measures in my work section.
57 I understand the responsibilities of my co-workers.
58 My supervisor sets my goals for me.
59 My supervisor overrules my decisions.
60 I understand the purpose of my organization.
61 My supervisor trusts me to get my work done.
62 My work section uses customer input to establish performance measures.
63 I feel like the organization's problems are my own.
64 Recognition is given in a timely manner in my work section.
65 I have a genuine respect for my co-workers.
66 My supervisor is concerned about problems in our work section.
67 Training is a priority in my organization.
68 I meet my work section's goals.
69 My supervisor holds me accountable for decisions I make.
70 I understand my responsibilities.
71 My supervisor provides me with honest performance feedback.
72 I participate in decision-making processes within my work section.
73 Finishing assigned work on time is a challenge for me.
74 I understand the informal rules of my organization.
75 While at home, I think about what I am going to do at work the next day.
76 Co-workers reject me when I make mistakes.
77 I can make suggestions about procedures in my work sections.
78 Group recognition is important in my organization.
79 I have control over my job regardless of leadership changes in my organization.
80 I understand the goals of my organization.
81 Other employees overrule my decision.
82 I decide how to fulfill my job responsibilities.
83 My supervisor lets me know the results of my suggestions.
84 I have authority to develop work processes to meet work section goals.
85 Job requirements allow me to use my abilities.
86 I am aware of the future plans of my organization.
87 My supervisor appreciates my ambition.
88 My co-workers and I share a common commitment to quality products and services.
89 Co-workers appreciate my work.
90 Individual recognition is important in my organization.
91 There is opportunity for advancement within my organization.
92 My job is challenging.
93 I need permission to deviate from assigned duties.
94 I set my own work-related goals.
95 My supervisor informs me when my responsibilities change.
96 My supervisor supports decisions I make.
97 I have well-defined job requirements.
98 I know the chain-of-command in my organization.

A-4

SCALE

```
+--------+--------+--------+--------+--------+--------+-------+
|   1    |   2    |   3    |   4    |   5    |   6    |   7   |
Strongly   Agree  Somewhat Undecided Somewhat Disagree Strongly
Agree             Agree             Disagree          Disagree
```

99   I willingly work long hours when necessary.
100 My supervisor encourages me to discuss new ideas with my
     co-workers.
101 I have a genuine respect for my supervisor.
102 Awards are given in a timely manner in my work section.
103 My supervisor encourages me to ask questions.
104 I know what my supervisor expects from me.
105 I am proud to work in my organization.
106 I know how to handle routine procedures within my work section.
107 I feel satisfied with my work performance.
108 Teamwork is important within my work section.
109 My organization feels like a large family.
110 My supervisor encourages initiative on the job.
111 Relevant information is available to everyone in my work section.
112 My supervisor consults workers before making worker-related
     decisions.
113 My work section structure allows me to carry on my job without
     supervision.
114 I enjoy working with people in my section.
115 My organization is progressing toward a predetermined goal.
116 My work section maintains written policies and procedures.
117 My supervisor gives me the information I need to do my job.
118 My supervisor treats workers in my organization with respect.
119 I learn from my co-workers.
120 My supervisor insists I perform my job his/her way.

COMMENTS:

Thanks again for your participation. Please place the completed AFIT
Form 11E and any comments in the self-addressed return envelope, and
mail to us by 12 July 1993.

Appendix B: Cronbach Alpha Analysis Results

Correlation Analysis

Cronbach Coefficient Alpha

for RAW variables   : 0.824570
for STANDARDIZED variables: 0.841100

	Raw Variables		Std. Variables	
Deleted Variable	Correlation with Total	Alpha	Correlation with Total	Alpha
AA	0.501927	0.810425	0.500952	0.829722
AB	0.550527	0.807271	0.558126	0.826509
AC	0.460983	0.813130	0.470667	0.831408
AD	0.398275	0.817009	0.399089	0.835347
AE2	0.186000	0.838494	0.172120	0.847423
AF	0.352931	0.819398	0.367583	0.837061
AG	0.392684	0.819339	0.376505	0.836577
AH	0.496810	0.814646	0.532925	0.827930
AI	0.254490	0.824221	0.288326	0.841318
AJ	0.380249	0.818947	0.354140	0.837788
AK	0.175815	0.829275	0.192408	0.846368
AL	0.442563	0.815072	0.477337	0.831038
AM	0.650794	0.800780	0.641555	0.821745
AN	0.628727	0.808115	0.648226	0.821360
AO	0.737290	0.795248	0.732033	0.816477
AP	0.617151	0.804260	0.612921	0.823390

Correlation Analysis

Cronbach Coefficient Alpha

for RAW variables   : 0.822414
for STANDARDIZED variables: 0.828752

| Deleted Variable | Raw Variables | | Std. Variables | |
	Correlation with Total	Alpha	Correlation with Total	Alpha
BA	0.595161	0.800168	0.591204	0.808721
BB	0.636619	0.798973	0.635116	0.805593
BC	0.477226	0.809310	0.477984	0.816630
BD	0.046774	0.844432	0.040269	0.845169
BE2	0.370622	0.818347	0.366393	0.824209
BF	0.499367	0.808508	0.497775	0.815264
BG	0.502002	0.807714	0.499782	0.815125
BH	0.517337	0.806116	0.523052	0.813509
BI	0.609381	0.800930	0.611264	0.807297
BJ	0.490013	0.808441	0.498152	0.815238
BK	0.267726	0.821741	0.274419	0.830298
BL	0.337813	0.818557	0.346690	0.825526
BM	0.507504	0.806964	0.510969	0.814349
BN	0.577837	0.802172	0.589045	0.808874

Correlation Analysis

Cronbach Coefficient Alpha

for RAW variables   : 0.883286
for STANDARDIZED variables: 0.889775

| | Raw Variables | | Std. Variables | |
Deleted Variable	Correlation with Total	Alpha	Correlation with Total	Alpha
CA2	0.393464	0.881227	0.384195	0.887724
CB	0.551060	0.876189	0.546137	0.883661
CC	0.618466	0.874552	0.625055	0.881644
CD	0.770974	0.871266	0.771505	0.877836
CE	0.622099	0.874254	0.626740	0.881601
CF	0.493535	0.878410	0.501428	0.884793
CG2	0.363183	0.881460	0.352647	0.888504
CH2	0.485832	0.878100	0.481009	0.885307
CI2	0.438598	0.879536	0.434204	0.886480
CJ	0.568575	0.876073	0.575367	0.882917
CK2	0.544985	0.876314	0.541305	0.883784
CL	0.661443	0.873002	0.665495	0.880601
CM	0.352701	0.881660	0.350022	0.888569
CN	-0.053832	0.894639	-0.048304	0.898088
CO	0.587809	0.875935	0.578789	0.882829
CP	0.569040	0.875903	0.576422	0.882890
CQ2	0.427048	0.880072	0.422074	0.886783
CR	0.516254	0.877354	0.526795	0.884152
CS	0.564584	0.876063	0.560568	0.883294
CT	0.363849	0.881232	0.373541	0.887988
CU	0.506103	0.877741	0.520495	0.884311
CV	0.470524	0.879005	0.476565	0.885419
CW	0.067278	0.889532	0.071903	0.895278
CX	0.458482	0.879125	0.474104	0.885481

Correlation Analysis

Cronbach Coefficient Alpha

for RAW variables   :   0.865486
for STANDARDIZED variables: 0.869647

| | Raw Variables | | Std. Variables | |
Deleted Variable	Correlation with Total	Alpha	Correlation with Total	Alpha
DA	0.696337	0.846453	0.690595	0.851552
DB	0.501743	0.858111	0.511739	0.861919
DC	0.629873	0.849638	0.612125	0.856155
DD	0.634999	0.849278	0.609361	0.856315
DE2	0.510001	0.857732	0.506972	0.862189
DF	0.604052	0.851474	0.613004	0.856104
DG	0.514579	0.857245	0.484279	0.863472
DH	0.318657	0.871675	0.325747	0.872238
DI	0.664190	0.847546	0.670457	0.852741
DJ	0.499459	0.858157	0.516977	0.861621
DK	0.479877	0.858824	0.499688	0.862602
DL	0.529781	0.856845	0.547067	0.859906
DM	0.437950	0.861135	0.448924	0.865456

Correlation Analysis

Cronbach Coefficient Alpha

for RAW variables   : 0.871829
for STANDARDIZED variables: 0.877559

	Raw Variables		Std. Variables	
Deleted Variable	Correlation with Total	Alpha	Correlation with Total	Alpha
EA	0.536421	0.863136	0.529561	0.870002
EB	0.604791	0.862225	0.621620	0.866045
EC	0.604670	0.859754	0.595022	0.867196
ED	0.413615	0.869788	0.410536	0.875008
EE	0.525609	0.863769	0.543054	0.869427
EF	0.617715	0.860596	0.639897	0.865251
EG	0.593721	0.860476	0.583338	0.867700
EH	0.517824	0.863999	0.529679	0.869997
EI	0.543566	0.862811	0.541694	0.869485
EJ	0.392239	0.869371	0.403620	0.875295
EK	0.411193	0.869226	0.426827	0.874330
EL	0.550343	0.862934	0.541923	0.869475
EM	0.604019	0.859846	0.592804	0.867292
EN2	0.392401	0.868994	0.409379	0.875056
EO	0.577989	0.861110	0.561504	0.868638
EP2	0.396327	0.871847	0.384209	0.876099

Correlation Analysis

Cronbach Coefficient Alpha

for RAW variables   : 0.889463
for STANDARDIZED variables: 0.888446

| | Raw Variables | | Std. Variables | |
Deleted Variable	Correlation with Total	Alpha	Correlation with Total	Alpha
FA	0.614156	0.880813	0.598181	0.880435
FB	0.725707	0.877272	0.706818	0.877195
FC	0.463020	0.885651	0.456701	0.884566
FD	0.550123	0.883080	0.522881	0.882646
FE	0.385838	0.887812	0.374670	0.886917
FF	0.572853	0.882190	0.562125	0.881497
FG	0.509038	0.884169	0.489881	0.883606
FH	0.622777	0.880482	0.590186	0.880671
FI	0.633650	0.880204	0.606484	0.880189
FJ	0.427566	0.886773	0.422458	0.885551
FK	0.708099	0.878331	0.702202	0.877334
FL	0.520432	0.883887	0.501745	0.883261
FM	0.670278	0.879590	0.661302	0.878560
FN	0.573831	0.882127	0.568046	0.881323
FO	0.465976	0.885389	0.493035	0.883514
FP	0.238394	0.893282	0.260688	0.890129
FQ	0.331543	0.888514	0.360146	0.887330
FR	0.313102	0.889393	0.337811	0.887962
FS	0.403268	0.887295	0.434338	0.885210
FT	0.369101	0.887759	0.412607	0.885834
FU	0.280895	0.889439	0.316405	0.888567

Correlation Analysis

Cronbach Coefficient Alpha

for RAW variables   : 0.773666
for STANDARDIZED variables: 0.781362

	Raw Variables		Std. Variables	
Deleted Variable	Correlation with Total	Alpha	Correlation with Total	Alpha
GA	0.413844	0.758548	0.413556	0.766850
GB	0.126842	0.794723	0.129700	0.797505
GC	0.336288	0.767572	0.350669	0.773884
GD	0.465695	0.751338	0.456232	0.761996
GE	0.408189	0.759811	0.396285	0.768795
GF	0.623402	0.733372	0.626720	0.741942
GG	0.695433	0.724570	0.704385	0.732448
GH	0.278179	0.771138	0.288681	0.780680
GI	0.448615	0.755722	0.459255	0.761650
GJ	0.449659	0.753474	0.441066	0.763728
GK	0.533141	0.742388	0.538313	0.752475

Initial Factor Method: Iterated Principal Factor Analysis

Scree Plot of Eigenvalues
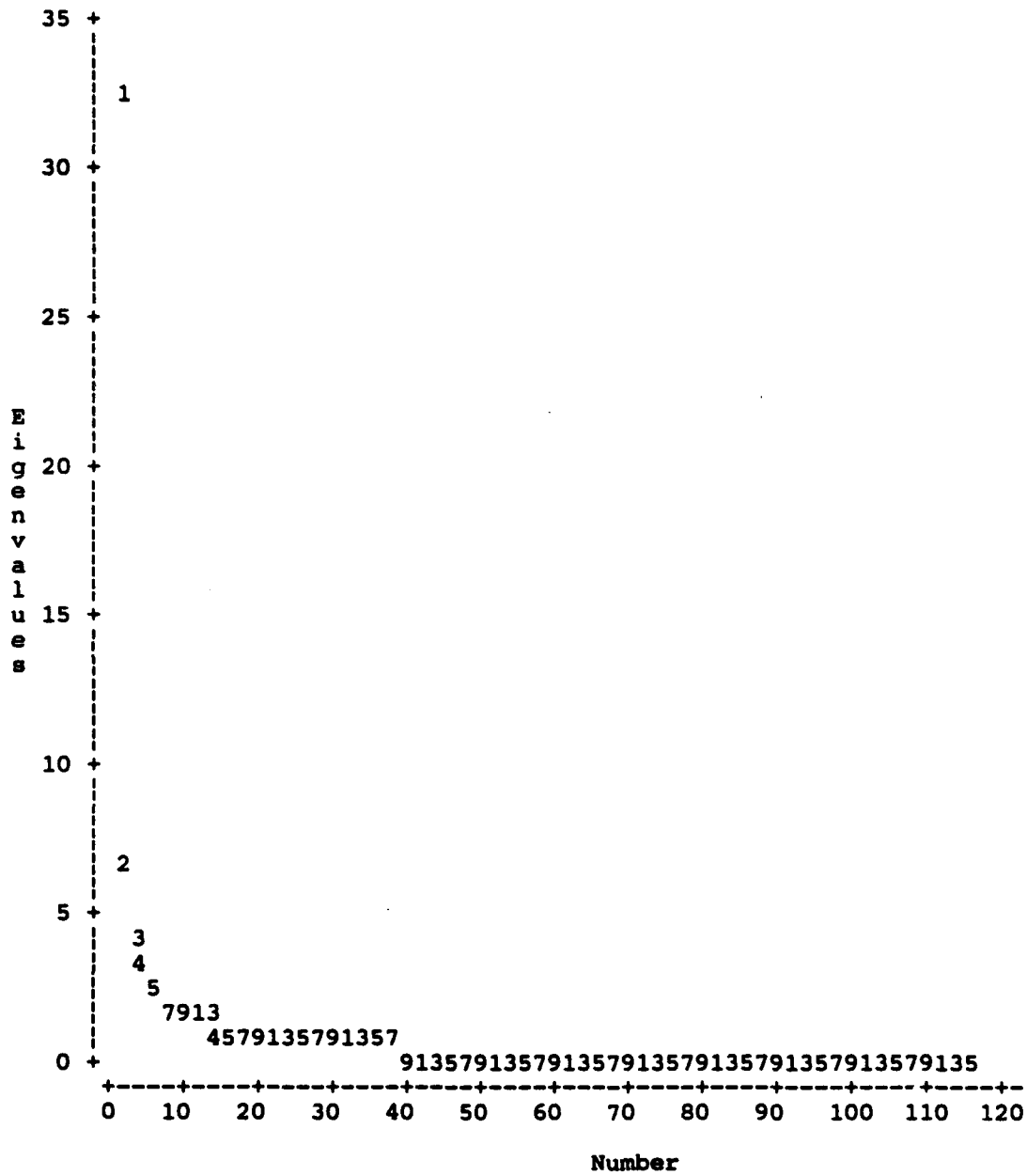
```
   35 +
      |
      |  1
      |
   30 +
      |
      |
      |
      |
   25 +
      |
      |
E     |
i     |
g  20 +
e     |
n     |
v     |
a     |
l     |
u  15 +
e     |
s     |
      |
      |
      |
   10 +
      |
      |
      |
      |  2
    5 +
      |
      |   3
      |   4
      |    5
      |     7913
      |    4579135791357
    0 +                   913579135791357913579135791357913579135
      +----+----+----+----+----+----+----+----+----+----+----+----+-
      0   10   20   30   40   50   60   70   80   90  100  110  120

                              Number
```

C-1

Rotation Method: Varimax

Rotated Factor Pattern

	FACTOR1	FACTOR2	FACTOR3	FACTOR4	FACTOR5	FACTOR6	FACTOR7
FA	0.74991	0.12154	0.13236	-0.01504	0.20553	0.14450	0.10718
EA	0.74265	0.08138	-0.00218	0.06935	0.18684	0.10556	0.01150
EG	0.70267	0.07634	0.03515	0.09396	0.29194	0.18451	0.05957
DC	0.69377	0.36614	0.15399	0.07713	-0.02547	-0.00307	-0.05246
DA	0.69033	0.30734	0.22087	0.03218	0.01137	0.13645	0.21690
CD	0.68230	0.09426	0.17972	0.12358	0.26489	0.26683	0.27845
FK	0.67859	0.19150	0.24023	0.12750	0.16779	0.17605	0.21459
GG	0.67090	0.25090	0.22029	0.10828	0.14366	0.17837	0.25241
GF	0.65859	0.20802	0.08969	0.07743	0.19686	0.25068	0.15663
FB	0.65317	0.39010	0.22517	0.04622	0.08318	0.02785	0.08794
FD	0.65246	0.15694	0.06046	-0.04782	0.06802	0.15321	0.22461
DG	0.62363	0.32900	0.10712	0.09437	-0.03025	-0.23094	-0.09000
CB	0.62152	0.30500	0.14287	-0.02036	0.11237	-0.01953	0.06690
DD	0.62136	0.41106	0.15850	0.10127	0.02887	-0.11474	0.01194
FM	0.61706	0.20365	0.30726	0.00406	0.11711	0.09030	0.21259
EM	0.61652	0.44312	0.21268	0.07448	-0.05547	0.05381	-0.12896
CS	0.59381	0.43266	0.10008	0.15024	0.02633	0.01189	-0.01050
EL	0.58955	0.19570	0.00767	0.05661	0.18529	0.19803	0.05836
EO	0.58893	0.24640	0.16009	0.02289	0.06079	0.15599	0.22738
BN	0.56664	0.41878	0.04849	0.20200	0.06647	0.20348	-0.03432
BI	0.56153	0.35837	0.15202	0.35317	0.09557	0.07586	-0.05663
CO	0.55571	0.05324	0.07703	0.12337	0.38819	0.10031	0.17589
FC	0.48624	0.14929	0.20650	0.05436	-0.15089	0.03321	-0.00089
GB	0.45862	-0.00528	-0.08477	-0.03771	-0.10564	-0.01524	-0.04625
BF	0.44084	0.16237	0.41594	0.05020	0.04470	0.04796	0.08345
CM	0.43394	0.33634	0.00738	0.12085	-0.02133	0.06873	-0.11254
CP	0.43121	0.15388	0.37623	0.04242	0.07327	0.22423	0.20156
FE	0.41255	0.15751	0.06856	0.05183	-0.08520	-0.01498	0.12328
CL	0.35460	0.31084	0.32394	0.20721	0.13954	0.21269	0.31521
FI	0.34092	0.62971	0.12835	-0.05354	0.04890	0.13510	0.12242
FJ	0.16778	0.57767	0.04888	0.26370	-0.02226	0.10133	-0.02388
FH	0.39611	0.57484	0.11906	-0.07662	0.19766	0.00714	0.06210
BM	0.24620	0.57075	0.13684	0.36622	0.00949	-0.02602	-0.00417
AG	0.16714	0.56356	0.05118	0.20818	0.07503	-0.04130	-0.11262
EC	0.27797	0.53117	0.10020	0.06720	0.12649	0.22914	0.14091
FL	0.27621	0.51594	0.08661	-0.08950	0.05984	0.19011	0.24235
GJ	0.15685	0.51320	0.19723	0.16410	-0.04116	0.21750	0.01945
BH	0.27085	0.51012	0.06042	0.22141	0.11765	0.05270	-0.07653
DF	0.10753	0.50123	0.43317	0.28969	0.18985	0.10518	0.00249
AM	0.31665	0.48479	0.29507	0.29842	-0.00142	0.22896	0.04854
AO	0.23856	0.47847	0.31172	0.42677	0.02737	0.04560	0.15691
CC	0.23852	0.47653	0.45153	0.09287	0.11364	0.31760	0.13264
FN	0.21343	0.47501	0.25940	-0.02303	0.24583	0.07793	0.15637
FF	0.30492	0.46976	0.19415	0.00051	-0.05472	0.20527	0.12505
AJ	0.20413	0.46944	0.10806	0.11131	-0.03506	0.06614	-0.12116
GE	0.25925	0.46767	0.13304	-0.18728	-0.00568	0.12287	0.19190
GD	0.23426	0.46087	0.21863	-0.05801	0.05249	0.07056	0.14527
CR	0.24162	0.45198	0.23602	0.41168	0.03988	0.05386	0.13884
EI	0.15309	0.44556	0.27803	0.13684	-0.02432	0.34493	0.20507
BG	0.12533	0.43434	0.20596	0.22510	0.14036	-0.04522	0.09496
BJ	0.25599	0.43117	0.05787	0.24224	0.31929	0.09037	0.18378
GK	0.22624	0.41845	0.36213	0.23799	-0.01399	0.13627	0.17915
DE2	0.34650	0.41625	0.16744	-0.13869	0.30194	0.17292	-0.09758
FG	0.22702	0.41032	0.15495	-0.01571	-0.01344	0.10271	0.28001
BL	0.04082	0.34738	0.05274	0.20056	0.19522	0.15555	-0.00493

Rotation Method: Varimax

Rotated Factor Pattern

	FACTOR1	FACTOR2	FACTOR3	FACTOR4	FACTOR5	FACTOR6	FACTOR7
AE2	0.12767	0.31832	0.08598	-0.08701	0.23215	0.08795	-0.07397
BA	0.15761	0.27867	0.73173	-0.07438	0.04656	0.05061	0.24694
FT	0.03689	-0.01808	0.60603	0.42435	0.05512	0.12804	-0.09168
FO	0.10429	0.21719	0.60354	0.21171	0.26695	-0.17345	0.02661
GA	0.15668	0.20030	0.60179	0.06811	0.00199	0.15728	-0.00065
BB	0.14604	0.35656	0.59393	0.05180	0.11484	0.02864	0.23629
FS	0.11797	0.03909	0.57847	0.18798	-0.03669	0.13357	0.01060
DB	0.12483	0.22488	0.57047	0.20152	0.00586	0.22235	0.08349
BE2	0.07382	0.11354	0.55727	-0.04163	0.11860	-0.06833	0.08647
DI	0.21607	0.41439	0.55724	0.08808	0.12073	0.21260	0.13637
FU	-0.00507	-0.02944	0.53879	0.28608	0.16279	0.09478	-0.12523
AC	0.08280	0.20357	0.53849	0.07010	-0.12803	0.24626	0.01949
AD	0.10210	0.18185	0.51560	0.03565	0.04811	0.15480	-0.08304
CT	0.03276	-0.04337	0.51117	0.39188	0.04411	0.29127	0.04640
ED	0.12735	0.24541	0.49167	0.08220	0.11241	0.06709	0.20473
FQ	0.03069	0.01248	0.48777	0.23798	0.01427	0.19459	0.10466
DH	0.05675	0.07214	0.45579	0.15633	-0.02851	-0.03231	0.07841
AP	0.17548	0.29375	0.45317	0.23467	-0.03821	0.24723	0.15675
FP	0.12881	-0.07489	0.44383	0.02635	0.04657	-0.11552	0.18124
DJ	0.12397	0.19436	0.42896	0.30602	0.12069	0.20020	0.21723
BC	-0.03486	0.34319	0.42416	0.20955	0.02239	-0.03353	0.06125
CF	0.27544	0.08980	0.42140	0.29651	0.03331	0.23980	0.01261
AF	0.11594	0.00793	0.29807	0.26572	0.04719	0.21543	0.15299
AH	0.02189	-0.00258	0.23828	0.65098	0.03156	0.26419	0.06843
AL	-0.02592	0.10901	0.19989	0.58528	0.05921	0.14706	-0.03843
AN	0.12716	0.25858	0.34050	0.57341	-0.03251	0.06658	0.01392
CU	0.12052	0.35717	0.34112	0.51475	0.17597	0.09525	-0.00043
AB	0.19134	0.35673	0.08354	0.48195	0.16152	0.04711	0.26815
FR	-0.06598	0.23338	0.32254	0.45060	0.19864	0.08463	-0.06700
AI	-0.11620	0.04471	0.14470	0.44579	0.02094	0.09799	0.22568
AA	0.09129	0.36272	0.08048	0.42634	0.03404	0.05706	0.07292
CV	0.24000	0.05384	0.15934	0.36880	0.23476	0.00542	0.33642
GH	0.21233	-0.04772	0.10395	0.36523	0.27609	0.04577	0.31102
CK2	0.38449	0.01705	0.12004	0.07383	0.60314	0.12442	0.13066
CH2	0.33931	0.05284	0.12787	0.06785	0.57978	0.07215	0.04802
CG2	0.07580	0.22010	0.08857	0.12497	0.46779	0.02638	0.09098
CA2	0.28245	0.02283	0.08860	-0.03251	0.45828	0.22292	-0.09716
CQ2	0.12622	0.22381	0.06360	0.19849	0.45336	0.26503	-0.05784
GI	0.39444	-0.00346	0.26303	0.20589	0.44350	0.12375	0.15320
EP2	0.32318	0.34986	0.03167	-0.03182	0.39051	0.04468	0.03673
CI2	0.22973	-0.04119	0.15700	0.00286	0.38831	0.07198	0.36852
GC	0.01477	0.36701	0.08205	0.23254	0.36915	0.03834	0.30395
CN2	-0.13483	0.11329	-0.00497	0.01555	0.30332	-0.01240	-0.07221
CW	0.17360	0.22084	0.14822	-0.06379	-0.35661	0.04502	-0.05539
EF	0.20750	0.20086	0.15001	0.27807	0.15489	0.57336	-0.00284
EE	0.12737	0.30858	0.20360	0.21546	0.02794	0.49229	0.03639
BK	0.12635	0.12973	0.07092	0.11879	0.16206	0.47228	0.14300
EH	0.27051	0.17096	0.27447	0.01902	-0.03793	0.45043	0.08076
DM	0.12512	0.15068	0.22603	0.28963	0.21594	0.39551	0.12389
EB	0.26254	0.26847	0.28984	0.19512	0.07831	0.39147	0.04242
EK	0.13102	0.07873	0.26576	0.35405	0.08250	0.36150	-0.06699
EN2	0.10644	0.12148	0.16881	0.16651	0.21238	0.35700	-0.02154
DL	0.31155	0.14075	0.30382	0.13636	0.16812	0.31167	0.28318
EJ	0.14799	0.21614	0.22189	0.02875	-0.02606	0.30023	0.12289
BD	0.11152	0.04340	0.10630	-0.04219	-0.18917	-0.21458	-0.04815
CJ	0.28362	0.19526	0.27375	0.14320	0.10660	0.22232	0.44692

Rotation Method: Varimax

Rotated Factor Pattern

	FACTOR1	FACTOR2	FACTOR3	FACTOR4	FACTOR5	FACTOR6	FACTOR7
CE	0.30231	0.18916	0.24971	0.20194	0.26671	0.14301	0.41333
AK	0.14283	0.03499	0.22157	0.06983	-0.18153	0.02207	0.38753
CX	0.17813	0.06916	0.26897	0.27063	0.06454	0.17236	0.35030
DK	0.28078	0.08017	0.30825	0.14792	0.15697	0.25107	0.30878

Variance explained by each factor

FACTOR1	FACTOR2	FACTOR3	FACTOR4	FACTOR5	FACTOR6	FACTOR7
14.001867	10.753250	9.927869	5.769849	4.135740	4.131726	3.093472

Rotation Method: Varimax:
Final Communality Estimates: Total = 51.813774

AA	AB	AC	AD	AE2	AF	AG
0.337867	0.503334	0.420599	0.343788	0.199690	0.245002	0.411511

AH	AI	AJ	AK	AL	AM	AN
0.556510	0.296142	0.306393	0.259214	0.421673	0.566190	0.533457

AO	AP	BA	BB	BC	BD	BE2
0.592598	0.464663	0.709162	0.573739	0.348193	0.111546	0.356839

BF	BG	BH	BI	BJ	BK	BL
0.407497	0.328212	0.408735	0.609687	0.457354	0.321692	0.227676

BM	BN	CA2	CB	CC	CD	CE
0.540000	0.586616	0.358365	0.517617	0.627856	0.740887	0.492739

CF	CG2	CH2	CI2	CJ	CK2	CL
0.408189	0.305447	0.482541	0.370905	0.474542	0.564310	0.534302

CM	CN2	CO	CP	CQ2	CR	CS
0.333933	0.128652	0.524495	0.449242	0.388590	0.511619	0.573344

CT	CU	CV	CW	CX	DA	DB
0.506757	0.563460	0.390219	0.237212	0.338680	0.686624	0.488640

DC	DD	DE2	DF	DG	DH	DI
0.648445	0.604583	0.471195	0.581461	0.579887	0.248614	0.615057

DJ	DK	DL	DM	EA	EB	EC
0.432637	0.385181	0.433367	0.391739	0.609146	0.424267	0.462321

ED	EE	EF	EG	EH	EI	EJ
0.383999	0.443771	0.535969	0.632454	0.388953	0.479603	0.224599

EK	EL	EM	EN2	EO	EP2	FA
0.361316	0.466085	0.649835	0.255322	0.513429	0.384709	0.669486

FB	FC	FD	FE	FF	FG	FH
0.647068	0.328190	0.534823	0.225076	0.412112	0.333287	0.550370

FI	FJ	FK	FL	FM	FN	FO
0.567725	0.445107	0.676328	0.456451	0.583720	0.429968	0.569183

FP	FQ	FR	FS	FT	FU	GA
0.268237	0.344669	0.417001	0.404710	0.576867	0.424195	0.456197

GB	GC	GD	GE	GF	GG	GH
0.232500	0.425843	0.347276	0.390658	0.617184	0.689471	0.366613

GI	GJ	GK
0.502651	0.403185	0.464925

Appendix D: Respondent Comments

Comments provided by questionnaire respondents are listed below.
Note: All comments were provided anonymously, and any indications of
identity, current job assignment, rank, etc., have been omitted.

Environment

Empowerment really should include the environment of empowerment...these
questions all relate to personal, team, and organization environment.
Some questions about resources--time available to do the job, money
available, manpower sufficient to complete work, space (office
environment) available--would be really beneficial to your survey.

There is nothing related to work environment; i.e., bigotry, buddy
system,etc., which are the dominant factors in the company.

This questionnaire has no way of measuring influences on the working
environment from above your immediate supervisor. Many problems can and
will arise from mid-level management, i.e., managers below the program
manger and above the division chief or individual boss.

Goals

This is no a production job. In an acquisition management organization
such as this, goals are often vague and ill-defined.

We have no "real" goals.

We can decide what is (or is not) our job and not do that which we wish
not to do; the organizational goals are not a factor.

Supervision

My supervisor informs me when my responsibilities change, but not always
in a timely manner.

I don't know the chain-of-command in my organization.

My supervisor sets short deadlines with contractors, then tells us.

I work directly for the two-letter and he doesn't always want to talk.
As a result, my responses may contradict each other depending on whether
I was responding to his philosophy or actions.

Is the object of the survey to measure the effect that the first level
supervisor of the employees (no matter where they fit in the grade
structure) has on the "perceived" empowerment/ independence of the
individual employee? If so, that is what is being measured in this
survey. However, supervisors of the first level supervisor may or may
not agree with the "empowerment" of the individuals in the work group.
For example, I know a supervisor who makes arbitrary (malicious/
vindictive) comments on individual performance at the lower levels
(personal attacks, threats to "take it out" on their performance
appraisals, OPRs, promotion recommendations, etc.) if you do not do it
"his way" (in other words, no matter what mistakes are introduced, cover
up the problems and document). I have received these "threats"
personally. You need to measure the effect these "threats" have on the

motivation, performance, and self-esteem (i.e., personal "vision" of empowerment) of the individual.

Supervisors have become so politically sensitive for their own survival that defense of subordinates is rare. One of the factors underlying the lack of defense is that the supervisor doesn't want to inform superiors that the subordinate followed the directions, or that the directions were late. It's not smart to remind upper levels that they are responsible for the timeliness, clarity, and timeliness of the taskings that roll downhill. Too, he lack of active defense by supervisors reflects the futility of talking to upper levels, the lack of supervisory training, and the lack of support they've received from above.

How do you empower individuals when their supervisor "posts" where all can see your working hours, vacation and TDY schedule, and is always clock watching?

The work section is not the problem. My immediate supervisor is very supportive! However, as you go up the chain, political and self interests outweigh the interests of the organization.

I have two supervisors, one I do work for and one I work for. The one I do work for is a great supervisor, but the one I work for is not the best. I don't get enough recognition in the SPO and I work very hard. I think I should get more recognition from the SPO and the supervisor I work for.

How can we "empower", motivate our individuals to performance improvement or ownership if the incoming 3-letter flatly states, "training is no value added, a waste of time."

The only reason I perform at all is because I enjoy working with my co-workers, and am self-motivated. I have taken ownership (empowerment) because the project I am working has no owners and there are no other individuals who can manage the vast volume of detail that I manage on a daily basis.

Supervisors (3-letters) who are not supportive of empowerment/ individual "ownership" should be removed from the position after a reasonable length of time to "reform" their thoughts. This strong policy should be at the 2-letter level and take place within 18 months.

Organizational Structure

Since I'm matrixed, I have four bosses.

I could learn more if those in the same field sat together--which is not allowed in SPOs under IPTs.

Under our structure, most of the people with experience in my field sit far away.

We are a civilian organization with military people, thus we have no firm structure.

Empowerment at the working level exists and is maturing. Above that, empowerment is nothing more than a buzz word. The nature of the rank structure (civilian and military) does not allow for true empowerment.

We are a matrix organization thus, we serve two masters "equally poorly."

I seems to me that this set of questions cannot capture many of the contributors to he status of the workplace, especially with regard to empowerment. The military is an organization which (of necessity) functions on a "rank" structure. Yet the "team" approach, the "all one family" approach is antithetical to a rank structure. A major or colonel can quickly and absolutely reverse any decision or output by "teams" with lower ranking officers. "Teams" imply a kind of democracy which does not exist. The question is never "is the work right," but rather "will the colonel sign it." At higher levels, the need for endorsement is even more critical, and the output of a "team" less relevant. Programs get funded and canceled or criteria which have nothing to do with the questions posed. Out "team" output is simply a service delivered to powers which have very specific agenda totally divorced from the "team," our "empowerment," and our products. In fact, the "team" and "empowerment" jargon is rigidly imposed upon the troops by near-gods who have no intention of relinquishing any of their hard-won power. Nobody walks the talk.

My current organization just reorganized, and today, with the implementation of IPTs, many people don't know who their supervisors truly are. Some even pick their bosses on a day-to-day basis, first IPT, then functional lines. It's a wonder we get some things done.

General Empowerment

I think that empowerment is sometimes used by management as an excuse to "slough-off" difficult decisions and cast blame when projects do not get accomplished. Management has a very important responsibility to ensure that the people they have empowered have the proper resources and direction to get the job done.

I am not the norm. I am probably one of five out of 200. Empowerment is largely a frame of mind. Empowerment is accepting responsibility and execution. The more the better. Forced empowerment does not work unless there is a willingness to accept responsibility and ownership of actions.

Empowerment = freedom with responsibility to accomplish the national needs.

I am empowered to do what I believe is right for the customer. We have too many managers that want to work project details versus taking care of their people first. We don't have a "true direction."

Awards/Promotions

Currently, pre-selection on promotions is rampant with profiles/interviews only run as a false motion to feign regulatory procedures.

We have had people work 80 hours a week and be the command person of the year and not receive a decoration (achievement, commendation, MSM) when they leave.

Too many awards too often. They don't mean anything.

Timely recognition is a problem. I know of awards presented to individuals over one hundred days after the approved package was signed out of CBPO. The emphasis is on fitting things into the colonel's schedule, not making timely recognition to recipients.

Miscellaneous

I hope this isn't a survey that will result in something that id forgotten about. These were serious questions. I'm looking forward to seeing something useful come out of it.

I can make suggestions about procedures in my workplace, but their implementation are another question.

You may want to add "most of" in front of co-workers. For me I strongly agree except for a few ____, so I selected "agree."

"Ways around" implies not working within the system. You may want to change "ways around" to "solutions to."

Program manager makes promises without checking with me first--so sets deadlines in this manner.

Too many deadbeats get promoted--yes, even these days.

My worksection contains useless secretary/clerical support, engineers and loggies.

While I was answering these questions, I found it difficult to answer some of them. The year I spent in my last office left me with a myriad of significant, diverse experiences and strong feelings. The job was quite difficult at first, but I left feeling proud, confident and successful.

The questions are not oriented to Army combat organizations. Also, my last job was not representative of my general Army experience. We are not supervisors of program offices, we are leaders of units. The frame of reference for many of these questions is foreign to me.

The questions on work hours may need expansion. I work extremely hard and I am extremely committed to the job. But, I have a family! My number one job is to raise my children and maintain a happy home life for myself, my spouse and our children. Occasionally. I'll stay late if needed, or travel over a weekend, but this should no be required. If this becomes a routine, then the organization is flawed. Just because I choose to go home at 5 PM does not make me less committed or less patriotic than a person who stays til 7 PM and ends up divorced and his children do not know him.

An important effort.

Don't ask me to participate in a questionnaire full of redundancy. I don't have time for your general mistrust.

Top management is anti-civilian. Only "yes sir" person, mil or civ, can move up.

I hope his will lead in some way towards the Air Force's development of a civilian evaluation and promotion system that diminishes subjectivity and completely eliminates favoritism.

Brand new on the job. Not much definitive information to give.

Do you think it is good for people to work long hours? Regularly? I think it reflects poor management. If "...when necessary" is not daily, or even weekly, but once in awhile, that's OK.

Our process is an "art" thus it has no formal process.

Although I believe that we are making progress towards formalizing documentation, policies/procedures, and work orders, it has been a struggle.

I haven't been here long enough to make an accurate determination of answers to many questions.

What about communication? Effective empowerment requires strong lines of communication. It does not exist in this organization or emphasized in this survey.

What happens when a self-motivated individual repeatedly gets barraged with demotivation (sapped)? Alternatives are health problems, psychological burn-out, emotional distance (relationships become impossible).

How do you measure the effect of individuals that are certified at a particular level but are not allowed to perform at that level? This is misassignment/wasteful of the time and talent of these individuals. What if you (the employee) are MORE qualified (higher educated, higher certified) than your supervisor?

Is ordering a professionally certified individual with multiple graduate degrees to make copies a valid use of their time?

I see PMDs and such come in delinquent, eating into the time of the program office to prepare the response, without extensions or apologies, or even so much as an "OOPS."

Training is not well racked or planned unless it's performed by the formal training command. Training is allocated to the organizations that identified the requirement four or more years before, despite the regular transfer of people between bases and two letter organizations.

Formal procedures are somewhat frowned upon in this organization. Written procedures require that someone actually understands t..e process and that management concurs with the procedure. Things change rapidly, which would require regular reviews of the operating instructions. Further, written procedures are viewed as the source of easy write-ups for the IG community. Of course, the stated reason is that written procedures stifle creativity and the total quality evolutionary process.

Many of the long hours worked could have been reduced or eliminated if timely instructions were available. Late critical information from HQ USAF organizations have caused some reworking of earlier work, and caused us to wait. In particular, one SPO was sent a tasking two weeks before we were, yet the actual tasking was the same. We worked several late hours to meet the suspense simply because we were tasked the day before it was needed.

TQM needs to address changes at command and headquarters levels. Continued "TQing" worker-level troops without visible impacts to headquarters has begun to worsen morale.

In two months on the job, I have redefined my job and gone from having one direct O-6 supervisor to having three, from running one 3-letter section to two, all in an organization still suffering from a massive reorganization three months ago, for programs under high-level budget-cutting pressure. As a result, a lot is either ill-defined, very fluid, or just unknown to most of us at the O-5/O-6 level. But then, I've always felt that my job was to identify and prioritize the vacuums in leadership/ management, and step out smoothly to fill them...

Appendix E: Final Questionnaire

1. The following questionnaire measures the level of perceived empowerment within your organization. Empowerment is important because it can unlock your organization's untapped potential when used effectively.

2. The questionnaire consists of 51 questions. Indicate your level of agreement or disagreement with each statement by using the scale provided below.

SCALE

1	2	3	4	5	6	7
Strongly Agree	Agree	Somewhat Agree	Undecided	Somewhat Disagree	Disagree	Strongly Disagree

___ 1 My supervisor is concerned about me as a person.

___ 2 Awards are given in a timely manner in my work section.

___ 3 My job is challenging.

___ 4 I know how to handle routine procedures within my work section.

___ 5 My supervisor insists I perform my job his/her way.

___ 6 I enjoy working with people in my section.

___ 7 I have a genuine respect for my supervisor.

___ 8 My work section uses customer input to establish performance measures.

___ 9 I maintain high standards of job performance when my supervisor is not present.

___ 10 I know how to get my job done.

___ 11 Other employees overrule my decisions.

___ 12 My co-workers and I share a common commitment to quality products and services.

___ 13 My supervisor treats workers in my organization with respect.

___ 14 Recognition is given in a timely manner in my work section.

___ 15 I have personal goals for my job.

___ 16 I understand my responsibilities.

___ 17 My supervisor holds me accountable for decisions I make.

___ 18 I can ask for information from others in the organization.

___ 19 My supervisor provides me with honest performance feedback.

___ 20 I understand performance measures in my work section.

___ 21 I care about the future of my organization.

___ 22 I understand the formal rules of my organization.

___ 23 I find myself withholding information from my supervisor to make my job easier.

___ 24 Co-workers appreciate my work.

___ 25 My supervisor lets me know the results of my suggestions.

___ 26 My work section maintains written policies and procedures.

___ 27 Job requirements allow me to use my abilities.

___ 28 I find myself being defensive on the job.

___ 29 I have a genuine respect for my co-workers.

___ 30 My supervisor supports decisions I make.

___ 31 My organization feels like a large family.

___ 32 I try to find better ways of performing my job.

___ 33 I can ask my supervisor questions about my job.

___ 34 I have a feeling of accomplishment from my job.

___ 35 I don't have enough work to do.

___ 36 My supervisor gives me the information I need to do my job.

___ 37 I have well-defined job requirements.

___ 38 I am excited about my job.

___ 39 My supervisor appreciates my ambition.

___ 40 Promotions within my organization are fair.

___ 41 I learn from my co-workers.

___ 42 My supervisor encourages initiative on the job.

___ 43 My organization is progressing toward a predetermined goal.

___ 44 Training is an on-going process in my organization.

___ 45 My supervisor encourages me to ask questions.

___ 46 My supervisor informs me when my responsibilities change.

___ 47 My supervisor keeps me focused on the goals of the office.

___ 48 I know my work section's goals.

___ 49 My supervisor compliments our work section when we attain our goals.

___ 50 My supervisor trusts me to get my job done.

___ 51 My supervisor defends me when necessary.

Scoring Instructions

1. Transfer your answers from the completed questionnaire to the corresponding numbered lines below. For questions 5, 11, 17, 23, 28, and 35, subtract your response from eight (8).

2. Total each category, then divide the total by the number indicated. The final number is your score for each empowerment dimension. Scores are based on a scale of one to seven, where one signifies high perceive empowerment and seven low degree of empowerment. See the attached management strategies to improve these scores.

Management Commitment

1. ___
7. ___
13. ___
19. ___
25. ___
30. ___
33. ___
36. ___
39. ___
42. ___
45. ___
46. ___
47. ___
49. ___
51. ___

Total____ / 15 = ___

Continuity

2. ___
8. ___
14. ___
20. ___
26. ___
31. ___
34. ___
37. ___
40. ___
43. ___
44. ___
48. ___

Total____ / 12 = ___

Worker Commitment

3. ___
9. ___
15. ___
21. ___
27. ___
32. ___
35. 8 - ___ = ___
38. ___

Total   ___ / 8 = ___

Cognizance

4. ___
10. ___
16. ___
22. ___

Total____ / 4 = ___

Control

5. 8 - ___ = ___
11. 8 - ___ = ___
17. 8 - ___ = ___
23. 8 - ___ = ___
28. 8 - ___ = ___
50. ___

Total   ___ / 6 = ___

Community

6. ___
12. ___
18. ___
24. ___
29. ___
41. ___

Total____ / 6 = ___

General Strategies to Improve Level of Empowerment

A. **Remove Sources of Powerlessness**. It is important to identify conditions which contribute to creating a sense of powerlessness in the organization. Once these have been identified, then empowerment strategies can be used to remove them. The following conditions contribute to powerlessness:

ORGANIZATIONAL FACTORS:

Significant organizational
   changes/transitions
Start-up Ventures
Excess, competitive pressures
Impersonal bureaucratic climate
Poor communications
Highly centralized resources

SUPERVISORY STYLE:

Authoritarian
Negativism
Lack of reason for actions/consequences

REWARD SYSTEMS:

Arbitrary allocation of rewards
Lack of competence-bases rewards
Lack of innovation-based rewards

JOB DESIGN:

Lack of role clarity
Lack of training and technical support
Unrealistic goals
Lack of appropriate authority
Low task variety
Limited participation in programs,
   meetings, and decisions that have a
   direct impact to on job performance.
Lack of appropriate resources
Lack of networking-forming opportunities
Highly established work routines
Too many rules and guidelines
Low advancement opportunities
Lack of meaningful goals/tasks
Limited contact with senior management

B. **Recommended Improvement Strategies Per Empowerment Dimension**

1. **Management Commitment**. Measures management's involvement in creating an environment where empowerment can thrive. Includes promoting individual and organizational growth, cultivating an atmosphere where people want to contribute, and providing access to information.

Strategies include:

a. Educate supervisors about the meaning of empowerment and how to achieve it. This education should include how to understand and accept organizational vision, a discussion of values necessary to guide decision-making, how to design jobs to provide ownership and responsibility, and how to effectively communicate plans Management Involvement

b. Encourage access to information at all levels.

c. Provide constructive feedback on job performance on a regular basis. Managers need to tell workers what they hope to accomplish—define, communicate, and follow-up.

d. Teach managers to be more like coaches. Coaching involves knowing what's going on, setting the direction, making decisions subordinates can not make, opening doors to clear the way, and assessing performance.

2. **Continuity**. Measures the degree leadership encourages individuals to use their skills effectively, effectiveness of recognition given to workers for their achievements, and integration between organizational goals and individual goals.

Strategies include:

a. Establish customer-driven performance measurements at the individual level.

b. Base rewards on organizational performance.

c. Provide plenty of education and training. Specific areas of training include skills required to solve problems and make

decisions; and basic skills such as reading, writing, and arithmetic, if necessary.

d. Make learning and competence a priority. Leadership can make learning and competence matter by ensuring mistakes are considered part of the process, and not perceived as failures.

3. Worker Commitment. Measures degree of worker involvement, and job/skill alignment.

Strategies include:

a. Involve employees in developing strategies for continuous improvement. Use of self-directed team initiatives, cross-functional problem-solving teams, and error removal suggestion programs, can be effective methods of getting people involved. The following are suggestions to improve the effectiveness of teams.

- Give the team a say in who works on the team.
- Establish a mission for the team.
- Provide time and places for the team to meet.
- Provide technical training at the "teachable moment".
- Provide "people" skills for interacting, solving problems, making decisions, and taking action.

b. Redesign jobs to align with skills and organizational needs.

c. Encourage workers to be more entrepreneurial, self-managing, and autonomous by helping subordinates develop confidence and master skills.

4. Cognizance. Measures the degree of organizational awareness of processes, procedures, and how workers fit into the organization.

Strategies include:

a. Define involvement and empowerment based on the mission of the organization, and establish organizational and individual goals.

b. Ensure new employees are exposed to the "big picture". This would involve explaining routine organizational procedures, main processes within the organization, and the chain of command.

c. Ensure workers can identify the processes they own. One method consists of identifying the product(s) of the process, and identifying the customer(s) of the product

5. <u>Control</u>. Measures the degree of control a worker perceives as related to responsibility and authority.

Strategies include:

a. Restructure the organization, if necessary. In some cases, it may be necessary to redesign the overall work structure to remove stifling policies.

b. Get people to take responsibility for their work. To instill a sense of responsibility a manager should:

- Offer help without taki   away responsibility.
- Avoid duplicating respc...,ibilities. Overlap of responsibilities takes away sense of ownership and pride.
- Prioritize responsibilities and review changes with the person.

c. Give people authority to fulfill the responsibilities delegated to them. Ensure workers know what authority they possess for a given task or job.

d. Establish means for making people accountable. Specific ways of establishing accountability include:

- Set expectations regarding desired output.
- Set expectations regarding desired checkpoints.
- Communicate standards and measurements.
- Ensure follow-up of employee work by listening and responding to recommendations

6. <u>Community</u>. Measures the degree of commonality of values between co-workers, customers and suppliers, and the extent people believe they can ask for help and give help.

Strategies include:

a. Provide workers with interactive and problem-solving skills to work with customers and teams.

b. Facilitate open communications at all levels.

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Vita

Captain Karen M. Corrente was born on 2 May 1961 in Methuen, Massachusetts. She graduated from Lawrence High School, Lawrence, Massachusetts, in June 1979. After two years at Bentley College in Waltham, Massachusetts, she enlisted in the U.S. Air Force as a nuclear weapons specialist. After completing technical training in September 1982, she was assigned to Wurtsmith AFB, MI. In September 1984, she was selected to attend the Air Force Reserve Officer Training Corps program at Michigan State University. Upon graduation with honors in December 1986 she was assigned to Altus AFB, Oklahoma, as a cost analyst. In 1989, she was reassigned to Alaskan Air Command at Elmendorf AFB, Alaska, as a cost analyst. Upon Command deactivation in 1990, she acted as the deputy accounting and finance officer while cross-training into financial services. In 1991, she became Chief, Financial Services Branch, until reassignment to the graduate cost analysis course at the Air Force Institute of Technology (AFIT) at Wright-Patterson Air Force Base, Ohio.

Permanent Address: 129 Willow Street
Lawrence, MA 01841

Vita

Capt Adelaida "Lilly" Lopez was born on 8 April 1961 in Honolulu, Hawaii. Capt Lopez earned her Bachelors of Science degree in Mathematics from the Inter American University of Puerto Rico. She received her commission through Air Force Reserve Officer Training Corps program in 1983 as a distinguished graduate.

After completing Space Operations Officer training, she was assigned to Onizuka AFB CA as the assistant project officer to the $40 million Satellite Operations Training Program (SOTP). A year later she became the SOTP project officer until contract completion. In 1988, she was assigned to the 379th Wing, Wurtsmith AFB, Michigan, as chief of the Cost Analysis Branch. In 1991, while at Wurtsmith, Capt Lopez was selected to implement the Quality Improvement philosophy basewide.

Her awards include the Air Force Achievement Medal, Air Force Commendation Medal, and the Meritorious Service Medal. She entered the School of Systems and Logistics, Air Force Institute of Technology, in May of 1992.

Permanent Address: 8969 Gardengate Drive
Huber Heights, OH 45424

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Adelaida Lopez, Capt, USAF

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13. ABSTRACT *(Maximum 200 words)*

The goal of this research was to develop an instrument capable of measuring empowerment, and provide recommended general strategies on how to create an empowered organization.

This goal was accomplished by developing a pilot questionnaire based on seven dimensions of empowerment discussed in Major Wayne G. Stone's unpublished article Empowerment: Keeping the Promise of the Total Quality Revolution. Each dimension of empowerment was subdivided into measurement parameters, with behavioral statements developed to describe these parameters.

The pilot questionnaire was completed by 278 Air Force-related personnel with mainly acquisition-oriented backgrounds. Results indicated six factors of empowerment exist which were translated into six empowerment dimensions: management commitment, continuity, worker commitment, cognizance, control, and community.

An operational questionnaire was developed along with a detailed feedback format for educational or organizational analysis.

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      Significant   Significant   Significance

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